

# 2021 Virtual IASNR Conference

## Event Schedule

Sun, Jun 20, 2021

### IASNR New Member's Meeting

🕒 10:00am - 11:00am, Jun 20

IASNR Meeting/Session

Session Host: IASNR

Session Moderator: William (Bill) Stewart

\*This meeting was not recorded. Please contact [info@iasnr.org](mailto:info@iasnr.org) for more information\*

If you are new to the IASNR Conference, have not been in a while, or are simply looking to connect with other members, join us for an hour and meet some others like you. We'll start with introductions--including to Executive Officers, Council Members and Staff and what they do--and break out into smaller groups for discussion and network building. If you don't yet have an existing community in IASNR, this is designed to help you get started with one.

### Student Forum

🕒 12:00pm - 2:00pm, Jun 20

Student Event/Session

Session Host: Student Susan (Susie) Sidder

Session Moderator(s): Susan (Susie) Sidder, Kindra De'Arman, Dana Johnson

\*This meeting was not recorded. Please contact [info@iasnr.org](mailto:info@iasnr.org) for more information\*

Please join student members of IASNR for the student-led 2021 Student Forum on Sunday, June 20th from 12:00-2:00pm CDT. During our two-hour synchronous conference event, we will engage in relationship building and networking, learn about opportunities for student-engagement in the organization, develop skills for customizing resumes and/or CVs for competitive applications (both academic and non-academic), and discuss pointers for maximizing on the online conference experience. We look forward to seeing you there! To register, please email [susan.sidder@oregonstate.edu](mailto:susan.sidder@oregonstate.edu) with the subject line "IASNR Student Forum." This event is free and open to all IASNR student conference attendees.

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### 📣 Speakers

**Susan Sidder** IASNR Student Representative, Oregon State University

**Kindra De'Arman** University of Oregon

**Dana Johnson** Incoming IASNR Student Representative-Elect, University of Illinois at Urbana-Champaign

Mon, Jun 21, 2021

### All Member's Meeting

🕒 8:00am - 9:00am, Jun 21

IASNR Meeting/Session

Session Host: IASNR

Session Moderator: William (Bill) Stewart

Our all-members meeting has also been called the General Assembly or the IASNR Business Meeting. It is a gathering open to all IASNR members as defined in our Constitution and Bylaws. In the past, an all-members meeting has been convened every year during our annual conference to address issues of importance to the organization and all the members. During the all-members meeting, Executive Officers

normally share a brief overview of the past year and encourage everyone to become more actively involved with all aspects of IASNR operations. All IASNR standing and ad-hoc committees would give a brief update on their recent activities, and exciting news of student paper awards and SNR best paper awards get shared. Also, it is always fun to hear from the hosts of the upcoming IASNR Conference and learn about the exciting programs they have in store for all the members. Another important function of the all-members meeting is that all decisions calling for votes, shall be taken by a simple majority of all IASNR members present at the meeting. This year we will have a vote on proposed changes to IASNR governance documents.

This meeting has been scheduled twice in the program for participants in different time zones.

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### 18 Subsessions

- **Executive Director - All Member's Opening**  
⌚ 8:00am - 9:00am, Jun 21
- **Current and Incoming Council Member Introductions**  
⌚ 8:00am - 9:00am, Jun 21
- **Discussion on Governance document changes**  
⌚ 8:00am - 9:00am, Jun 21
- **Treasurer's Report**  
⌚ 8:00am - 9:00am, Jun 21
- **Student Affairs Committee Update**  
⌚ 8:00am - 9:00am, Jun 21
- **Elections Committee Update**  
⌚ 8:00am - 9:00am, Jun 21
- **Ethics Committee Update**  
⌚ 8:00am - 9:00am, Jun 21
- **Diversity, Equity and Inclusion**  
⌚ 8:00am - 9:00am, Jun 21
- **Professional Development Committee Update**  
⌚ 8:00am - 9:00am, Jun 21
- **Conference Support Committee Update**  
⌚ 8:00am - 9:00am, Jun 21
- **Call for Proposals to Host The IASNR Conference 2024 and Beyond**  
⌚ 8:00am - 8:00am, Jun 21
- **Publications Committee Update**  
⌚ 8:00am - 9:00am, Jun 21
- **Membership Committee Update**  
⌚ 8:00am - 9:00am, Jun 21
- **Best Student Paper Awards**  
⌚ 8:00am - 9:00am, Jun 21
- **Rabel J. Burdge & Donald R. Field Outstanding Article Award**  
⌚ 8:00am - 9:00am, Jun 21
- **2022 IASNR Conference Planning Committee Update**  
⌚ 8:00am - 9:00am, Jun 21
- **Open discussion**  
⌚ 8:00am - 9:00am, Jun 21
- **Closing**  
⌚ 8:00am - 9:00am, Jun 21

## Social Learning in Resource Management

🕒 8:00am - 9:30am, Jun 21

Session Host: IASNR

Session Moderator: Rachel Schattman

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### 5 Subsessions

- **Social learning in environmental assessment: examining the relationships**  
🕒 8:00am - 9:30am, Jun 21
- **The role of a community of practice on the adoption of best management practices in agricultural systems: A social networks perspective**  
🕒 8:00am - 9:30am, Jun 21
- **Maps, models, and making connections: Relationships and learning as tools of forest management**  
🕒 8:00am - 9:30am, Jun 21
- **Perception-Based Assessment of Belai Beel Ecosystem Services in Gazipur, Bangladesh**  
🕒 8:00am - 9:30am, Jun 21
- **A toolkit for scaffolding social learning in multi-stakeholder schemes for environmental governance**  
🕒 8:00am - 9:30am, Jun 21

## Outdoor Recreation I

🕒 8:00am - 9:30am, Jun 21

Session Host: Allie McCreary

Session Moderator: Ricardo Nogueira Mendes

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### 4 Subsessions

- **The Future of Adventure Tourism in a Warmer World: An Exploratory Study of Mountain Guides' Perception of Environmental Change in Canada**  
🕒 8:00am - 9:30am, Jun 21
- **What happened in the mountains? Examining the changes in tourism from 2009-2020 in Norwegian national parks**  
🕒 8:00am - 9:30am, Jun 21
- **Developing sustainable nature-based tourism in Oman's nature reserves: Opportunities and challenges in relevance, collaboration, and scale identified through the case of Al-Saleel Nature Park**  
🕒 8:00am - 9:30am, Jun 21
- **Recreation Participation Outlooks to 2070 for Snowmobiling**  
🕒 8:00am - 9:30am, Jun 21

## Building Global Networks for Natural Resource Social Sciences

🕒 10:00am - 11:30am, Jun 21

**Organized Session**

Session Host: Kenneth Wallen

Panel Session Chair(s): Kenneth Wallen

Panel Co-Contributors: Natalie Sexton, Jessica Austin, Stefan Partelow, Wylie Carr, Ashley Gramza

The technology of the 21st century can facilitate novel approaches to professional networks and communities of practice beyond the professional society that were not possible a decade ago. And the past year has offered a stark reminder of the need for resilient networks and communities that connect, re-connect, and support — professionally and personally — natural resource social scientists, practitioner, and advocates.

Over the past 10-years, several independent initiatives have built global or fit-to-purpose networks of natural resource social scientists and practitioners. These include an Interagency Federal Collaborative ([my.usgs.gov/hd/about](http://my.usgs.gov/hd/about)), Social Science Extreme Events Research Network ([hazards.colorado.edu/sseer/researchers-map](http://hazards.colorado.edu/sseer/researchers-map)), Environmental Social Science Network ([incommonpodcast.org/about-common/](http://incommonpodcast.org/about-common/)), Marine Social Science Network ([www.marsocsci.net](http://www.marsocsci.net)), and the Conservation Social Science Community Network ([arcg.is/1rm8zS](http://arcg.is/1rm8zS)).

These five network initiatives have agreed to participate in the proposed session to show current efforts to build global networks for natural resource social science. Bringing together leaders of these related but distinct initiatives contributes to the conference theme of building global networks for natural resource social science. Contributors represent a well-rounded understanding of the trials and tribulations associated with developing, launching, and sustaining a social science network.

Our hybrid session of pre-recorded talks (8-mins/each) will be followed by a moderated panel discussion with the panelists and their collaborators (45 mins). Contributors' presentations will focus on introducing these initiatives, and trials and tribulations, and the follow-up moderated panel discussion will focus on a broad theme of how we (re-) construct communities of practice away from academic disciplines and towards problem-oriented work that can synergize academics, practice, and broader institutional and public interest.

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#### Speakers

**Nia Morales** University of Florida

**Emma McKinley** Cardiff University

**Michael Cox** Associate Professor, Dartmouth College

**Rudy Schuster** US Geological Survey

**Jessica Austin** Graduate Research Assistant; Data Manager, University of Colorado Boulder

## Dynamics of Homelessness on Public Lands: Researcher and Practitioner Perspectives

🕒 10:00am - 11:30am, Jun 21

### Organized Session

Session Host: IASNR

Session Chair(s): Lee Cerveny, Monika Derrien

Homeless encampments on public lands have presented persistent challenges for land managers and raised concerns about the experiences and outcomes for unsheltered homeless campers themselves. In many parts of the United States, public land managers have observed the increasing prevalence of these “non-recreational campers” in sites for longer time periods than is permissible, or where camping is not allowed in the first place. These uses have a wide range of implications for the biophysical and social environment of these parks, forests, greenbelts, and other public natural areas. Land managers and law enforcement officers face challenges in addressing homeless camping and seek additional training, tools, and approaches to assess and address health and safety needs while protecting resources and recreational use of these sites. Further, little has been documented about the factors that draw homeless campers to different natural areas, the settings and features they seek, or the advantages they perceive camping to provide compared to other options. Coordination is lacking across agencies and jurisdictions, and research is needed to understand the health and safety implications of homeless encampments on public lands for the campers themselves. This session provides a series of papers that explores these questions of homelessness on public lands from a variety of perspectives, including from land managers, law enforcement, and health and social service providers. The papers explore the dynamics of homelessness on national, state, and local forests and parks, and describe efforts by public land management agencies to expand dialogues around homelessness and search for systemic solutions to seemingly recalcitrant

challenges.

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#### 4 Subsessions

- **Unsheltered homelessness in parks and open spaces: Assumptions underpinning action and management**  
⌚ 10:00am - 11:30am, Jun 21
- **Non-recreational campers in the National Forest: Setting preferences, management implications, and proposed solutions**  
⌚ 10:00am - 11:30am, Jun 21
- **Drivers of homelessness in natural areas across the urban-wildland gradient: Perspectives from Western Washington**  
⌚ 10:00am - 11:30am, Jun 21
- **Taking care of the land by taking care of one another: The Willamette National Forest's work toward addressing homelessness on the forest**  
⌚ 10:00am - 11:30am, Jun 21

#### Arid Lands Conservation and Management

⌚ 10:00am - 11:30am, Jun 21

Session Host: Paulus Mau

Session Moderator: Mark Suchyta

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#### 4 Subsessions

- **Learning to love the sagebrush: Exploring diverse perspectives on Idaho's sagebrush steppe**  
⌚ 10:00am - 11:30am, Jun 21
- **Evaluating predictors of landscape-scale social-ecological regime shift signals in near real-time on private rangelands in Nebraska**  
⌚ 10:00am - 11:30am, Jun 21
- **Jurisdictional partitioning and anthropogenic ecotones in undeveloped landscapes**  
⌚ 10:00am - 11:30am, Jun 21
- **Addressing barriers to proactive restoration for at-risk sagebrush communities: A Causal Layered Analysis**  
⌚ 10:00am - 11:30am, Jun 21

#### Education, Learning, and Ways of Knowing

⌚ 10:00am - 11:30am, Jun 21

Session Host: Kate Sherren

Session Moderator: Alison Bressler

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#### 4 Subsessions

- **A Climate Change Teaching Module for Intro-level Social Science Courses**  
⌚ 10:00am - 11:30am, Jun 21
- **Early-life experiences with nature as a basis of human values and pro-environmental behavior**  
⌚ 10:00am - 11:30am, Jun 21
- **Nature-based courses can foster multiple connections to nature**  
⌚ 10:00am - 11:30am, Jun 21

- **Alignment among environmental programs in higher education: What Food-Energy-Water concepts are we covering in introductory courses?**

🕒 10:00am - 11:30am, Jun 21

### **Keynote - Putting Social Science Theory to Work**

🕒 12:00pm - 1:00pm, Jun 21

**Keynote**

Session Host: IASNR

Session Moderator: Bill Stewart

Authors: Marc Stern

One of the key strengths of this Association is the wide breadth of disciplines we draw from to explain real world phenomena. Another key strength is our continued commitment to practical applications– that our work should not merely exist on the pages of academic journals but should rather have real influence on bettering social-ecological wellbeing in the communities where we work. All that said, translating our research into actionable knowledge for practitioners remains a major challenge for a wide array of reasons.

I'll draw on some key lessons I've learned from using my recent book, *Social Science Theory for Environmental Sustainability: A Practical Guide*, in teaching and in real world practice to advance sustainability projects over the past few years. I'll argue that social science theories, particularly what Merton called "theories of the middle range," can make us all more effective if we know how best to use them and to communicate about them.

Please show up to this presentation ready to think, question, interact, and reflect. What are your favorite social science theories? If you teach, do your students recognize the value of those theories? How useful are they to practitioners? What are the dangers of relying too heavily on pre-existing theory? How can we counteract these? We'll explore themes of both pedagogy and professional practice.

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**Speaker**

**Marc Stern** Professor, Virginia Tech

### **Urban-Proximate Human Dimensions Research: Understanding Visitor Behavior and Visitation Patterns during the 2019 Coronavirus Disease Pandemic**

🕒 2:00pm - 3:30pm, Jun 21

**Organized Session**

Session Host: IASNR

Workshop Session Chair(s): Deonne VanderWoude, Colin Leslie, Anna Reed

The City of Boulder Open Space and Mountain Parks (OSMP) is an urban-proximate open space district situated in the Front Range of Colorado. Encompassing just over 46,000 acres with 158 miles of designated trails, OSMP lands provide a diverse array of ecological services and recreational opportunities to the surrounding area. Boulder city, county, and regional growth over the last several decades has pushed annual OSMP visitation upwards of 6.3 million annual visits, presenting new challenges to the long-term stewardship of open space. To successfully plan for and manage this level of visitation, managers must develop a scientifically defensible, empirical understanding of visitation dynamics on open space. Particularly during the 2019 coronavirus disease (COVID-19) pandemic, this includes quantifying when, where and how people are distributed across the trails, how parking areas are being utilized across the land base, and how visitors are behaving and interacting while visiting our trail system. This workshop will introduce participants to some of the scientific methods employed by the OSMP Human Dimensions Program to quantify visitation, parking utilization, and COVID-19 public health order compliance on open space during the pandemic as well as results from each study. In particular, the workshop will focus on methods for quantifying visitation dynamics using automated trail counters, quantifying parking utilization using automated trail and parking counters, cameras, and direct observation, and using direct observation to quantify compliance with social distancing and wearing face covers. Specific topics to be covered are methods selection, operationalization, tailoring analysis to research questions, data visualization, and

interpreting results. We will also briefly cover management applications, such as visitor management strategies, policy creation, and adaptively modifying on-going operations. Participants will be invited to join group learning activities.

## Community-Engaged Research: Innovations for Moving from a Science Delivery to a Deliberative Science Approach

🕒 2:00pm - 3:30pm, Jun 21

### Organized Session

Session Host: Paulus Mau

Session Chair(s): Mae Davenport

Debates over the legitimacy and relevance of science have become increasingly polarized in public discourse, news media, and policy making. The need for community-engaged research (also called community-engaged scholarship and community-based participatory research) that integrates multiple ways of knowing has never been more apparent. In this session, presenters discuss new frameworks for deliberative science and examine the outcomes of community-engaged research strategies. Deliberative science recognizes the shortcomings of science communication models that aspire to “deliver” science products to an “uninformed” audience. Instead, deliberative science prioritizes inclusivity, shares decision-making power, and engages communities in dialogue throughout the process. Relationship-building and cultural exchange across different ways of knowing become the focus. Further, we argue that deliberative science makes science better. As a series of case studies, we explore collaborative data analysis in a Minnesota urban water project, volunteer water monitoring in Montana, collaborative monitoring of drain tile in the Lake Erie Basin, community-based initiatives led by Inland Pacific Northwest wheat farmers facing herbicide resistance, and formative evaluation of a tribally-directed research process aimed at protecting Manoomin (natural wild rice). This session is interactive and discussion notes will be gathered and shared with all participants.

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### 4 Subsessions

- **A Deliberative Science Framework for Evaluating Community-Engaged Research**

🕒 2:00pm - 3:30pm, Jun 21

- **Supporting Community-Centered Urban Water Justice Through Inclusive Collaborative Analysis**

🕒 2:00pm - 3:30pm, Jun 21

- **Exploring information diffusion and trust in science through case studies of volunteer water monitoring programs in Montana**

🕒 2:00pm - 3:30pm, Jun 21

- **Creating a community-based herbicide resistance management toolkit with wheat producers in the U.S. Pacific Northwest**

🕒 2:00pm - 3:30pm, Jun 21

## Institutional Work in Federal Lands Governance: Local Perspectives from the Western US

🕒 2:00pm - 3:30pm, Jun 21

### Organized Session

Session Host: Wusu Conteh

Session Chair(s): Chelsea Pennick McIver, Katherine Wollstein

Natural resource challenges in the U.S. West often feature a suite of actors and processes operating at different spatial and political scales, and across several administrative jurisdictions. In recent decades, we have seen administrative functions move outward to non-governmental actors and downward to local levels to build cooperative coalitions and achieve higher-level objectives. This session explores current research on how governmental and non-governmental actors are working within institutions, creating new ones, and building new processes in public lands governance. Presentations will include a focus on multiple actors exercising different types of power, authority, and agency as they work to create, maintain or build new institutions at multiple scales of decision-making and practice. In addition to this, presentations will seek to identify the exportable features of these strategies, and describe their potential application in

shaping strategies to address resource challenges that occupy multiple spatial and political scales on U.S. public lands.

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#### 4 Subsessions

- **The role of bureaucratic behavior in collaborative governance of public lands: an investigation into agency and institutional work within the US Forest Service**  
🕒 2:00pm - 3:30pm, Jun 21
- **Co-management as a process in public rangeland administration: An Idaho case study**  
🕒 2:00pm - 3:30pm, Jun 21
- **The Institutional Work of Managing Wildfire for Natural Resource Objectives**  
🕒 2:00pm - 3:30pm, Jun 21
- **Perspectives on the US Forest Service's Shared Stewardship Strategy's Implementation and the Implications for Institutions and Federal Lands Governance**  
🕒 2:00pm - 3:30pm, Jun 21

#### Novel Techniques for Computational Text Analysis on Natural Resource Topics

🕒 2:00pm - 3:30pm, Jun 21

##### Organized Session

Session Host: Kate Sherren

Session Chair(s): Greg Stelmach, Hilary Boudet

Social scientists are increasingly turning toward computational text analysis to examine and draw conclusions about text-based content related to natural resource topics (e.g., public comments, media coverage, policy documents). Our panel will explore this methodological approach using examples of its application to a variety of topics, including facility siting, natural disasters, and energy legislation. We will explore questions related to the new and established methods for accomplishing computational text analysis, the benefits of this approach vs. traditional qualitative coding, potential pitfalls, and ways to combine it with other more traditional research methods. Our hope is to begin an ongoing discussion among practitioners (both current and potential) as it becomes a more established approach in the field.

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#### 5 Subsessions

- **Topic modeling issue frames in LNG siting in Oregon**  
🕒 2:00pm - 3:30pm, Jun 21
- **Leave it in the ground, or send it abroad? Assessing themes in community response to coal export proposals in Washington State through topic modeling of local news**  
🕒 2:00pm - 3:30pm, Jun 21
- **Understanding the Public Attitudes towards the Clean Power Plan Using Natural Language Processing and Deep Learning**  
🕒 2:00pm - 3:30pm, Jun 21
- **Novel Approaches for Analyzing Large-Scale Public Comments Data in the Study of Public Response**  
🕒 2:00pm - 3:30pm, Jun 21
- **When Focusing Fails: Media Coverage of Climate Change in the Wake of Natural Disasters**  
🕒 2:00pm - 3:30pm, Jun 21

#### Invasive Species Management

🕒 4:00pm - 5:30pm, Jun 21



Session Host: IASNR  
Session Moderator: Kristi Lekies

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#### 4 Subsessions

- **Great Lakes anglers' preferences for future fishing scenarios influenced by the spread of aquatic invasive species**  
🕒 4:00pm - 5:30pm, Jun 21
- **Losses loom larger than gains when private landowners evaluate overall impacts of invasive species**  
🕒 4:00pm - 5:30pm, Jun 21
- **Exploring narratives of deer management in Australia**  
🕒 4:00pm - 5:30pm, Jun 21
- **Market Based Options for Controlling Invasive Lionfish in Florida**  
🕒 4:00pm - 5:30pm, Jun 21

#### Knowledge, Participation, & Governance

🕒 4:00pm - 5:30pm, Jun 21

Session Host: IASNR  
Session Moderator: Asif Siddiqui

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#### 5 Subsessions

- **The Emergence of Boundary Spanners in Collaborative Policymaking: A Case Study**  
🕒 4:00pm - 5:30pm, Jun 21
- **Exploring the utilisation and sharing of new environmental knowledge in natural resource management in regional Australia**  
🕒 4:00pm - 5:30pm, Jun 21
- **Social science on and for stakeholder engagement: Navigating tensions across practical and scholarly aims**  
🕒 4:00pm - 5:30pm, Jun 21
- **Examining the conditions that activate linking social capital to transition environmental governance: Empirical insights from Chile's coast**  
🕒 4:00pm - 5:30pm, Jun 21
- **Faith-based environmental engagement in Canada: A participatory governance perspective**  
🕒 4:00pm - 5:30pm, Jun 21

#### The Offers and Needs Market: A mutual-aid networking event for natural resource social scientists

🕒 4:00pm - 5:30pm, Jun 21

##### Organized Session

Session Host: Katie Epstein  
Workshop Session Chair(s): Katie Epstein, Kelli Roemer

\*This meeting was not recorded. Please contact [kathleen.epstein@msu.montana.edu](mailto:kathleen.epstein@msu.montana.edu) for more information\*

Are you interested in creating meaningful connections with colleagues near and far? Are you looking for an opportunity to let your skills and passions shine? Do you need help with a research proposal? Or, do you have an infallible pizza dough recipe to share? If you answered yes to any of these questions, please

join us for the IASNR 2021 Offers and Needs Market!

An Offers and Needs Market is a well-practiced, guided process where groups come together to share their skills, passions, experiences, and resources. The process is a fun and effective way to connect, get more comfortable expressing your offers and needs, and build connections across our natural resource social science community. The Offers and Needs Market is also about creating an economy based on the well-being of people and the planet; it responds to calls for more sustainable and equitable forms of development by cultivating and acting on new ways of thinking about sharing resources.

This video (<https://offersandneeds.com>) gives you a look into the face-to-face experience that we will replicate virtually. For more information about the philosophy and history of Offers and Needs Markets, please visit [www.postgrowth.org](http://www.postgrowth.org).

Please register to participate here: <https://forms.gle/iLBMytjuxgQ3kxLw8>

Find interesting people who are deeply committed to strengthening our natural resource social science community and an economy based on the well-being of people and the planet.

## Energy and Just Transitions

🕒 4:00pm - 5:30pm, Jun 21

Session Host: Kate Sherren

Session Moderator: Kate Sherren

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### 5 Subsessions

- **Enhancing self-determination across sectors in a resource region by cultivating 'shared measurement'**  
🕒 4:00pm - 5:30pm, Jun 21
- **Examining renewable energy projects in Yucatan, Mexico through the energy justice lens: How socially and environmentally sustainable are they?**  
🕒 4:00pm - 5:30pm, Jun 21
- **The Environmental Movement and Just Transition: the Landscape of Support for Fossil Fuel Workers**  
🕒 4:00pm - 5:30pm, Jun 21
- **Integrating participatory and expert approaches to create future scenarios to assess dynamics of food-energy-water systems**  
🕒 4:00pm - 5:30pm, Jun 21
- **Towards a Political Ecology of Energy Transitions: Lessons from Canadian Renewable Energy Projects**  
🕒 4:00pm - 5:30pm, Jun 21

## New Technology to Measure the Health Benefits of Outdoor Recreation Activities

🕒 6:00pm - 7:30pm, Jun 21

### Organized Session

Session Host: IASNR

Workshop Session Chair(s): Chun-Yen Chang, Pongsakorn Suppakittpaisarn, Chung-Heng Hsieh, Po-Ju Chang

Work and life pressure in modern life cause the extent of depression, sadness, anxiety that negatively affect individuals' health, and accordingly, their quality of life may deteriorate overall. Experiencing nature and engage in outdoor activities are necessary to keep our physical and psychologically healthy. Much of the empirical studies involved in qualitative or quantitative (ex. survey), however, the value of "real-time data collecting" is an important method to explore the relationship between the stimulating and healthy benefits in time. In this session, based on the environmental psychology and outdoor recreation theories, we would like to share our experience and discuss 3 types of research topics, which combine those with the updated technology as the research tools (HealthCloud, virtual reality (VR), artificial intelligence (AI), etc.) to power the evidence-based researches and healthy application. The first research topic would be applying the

HealthCloud App as a real-time individual healthy data collection, which could monitor physical and psychological indicators as engaging in outdoor activities. Moreover, the App would be a solution to selecting healthy routes. The second research topic could discuss using the 360-degree video as an intervention in VR to increase health, especially for those who are inconvenienced experiencing outdoor. Besides, the researchers would also discuss using eye trackers and biofeedback instruments to track individual's healthy responses immediately. The last research topic would like to share how AI and machine learning will be tools for managing outdoor recreation experiences. Above all, the growth of updated technology is a trend in the interdisciplinary application to improve an individual's health benefits as being in the natural environment.

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## 7 Subsessions

- **Opening Remarks**

🕒 6:00pm - 6:05pm, Jun 21

- **HealthCloud: Collect real-time health data with environmental information**

🕒 6:05pm - 6:15pm, Jun 21

- **Integrating Urban Neighborhood Green Spaces and Leisure Resources for Older Population via Mobile Social Media Application**

🕒 6:15pm - 6:25pm, Jun 21

- **The Healthy Landscape for Dialysis Patients: Measuring the Health benefits of immersive nature experience on Depression Improvement**

🕒 6:25pm - 6:35pm, Jun 21

- **Combining image processing and biofeedback for outdoor walk benefits: a work in progress**

🕒 6:35pm - 6:45pm, Jun 21

- **An application of the Healthy Landscape ImageDatabase on selecting outdoor recreation**

🕒 6:45pm - 6:55pm, Jun 21

- **Discussion and Future Collaboration**

🕒 6:55pm - 7:30pm, Jun 21

## Reimagining the NRSS Pipeline: Connecting Voices with Institutional Change Strategies

🕒 6:00pm - 7:30pm, Jun 21

### Organized Session

Session Host: Kate Sherren

Session Chair(s): Evan J. Andrews, Kate Sherren, Solange Nadeau, and Christine Knott

Moderators: Evan J. Andrews (Postdoctoral Fellow with the Ocean Frontier Institute, Memorial University) and Christine Knott (Postdoctoral Fellow with the Ocean Frontier Institute, Memorial University)

The aim of this panel to understand problems and solutions for advancing natural resource social science (NRSS) careers in academic, public and private sectors. It is increasingly recognized that the most challenging aspects of transitions to sustainability now and into the future involve people. Communities and broader society will thus need experts and researchers in NRSS research. To meet knowledge needs for sustainability transitions, critical examination is needed on the NRSS pipeline for diverse sectors, particularly places outside the US land grant university/extension model. The NRSS pipeline describes career trajectories—expectations, barriers, opportunities, and job security and satisfaction—for NRSS researchers. Research reveals that reflections on the environmental NRSS pipeline has neglected diverse voices, experiences, and preferences for careers. Commonly proposed strategies to fix 'leaky pipelines' continue to struggle in a constrained economy, aging universities, and applied contexts that misunderstand or undervalue social science expertise. Consequently, while research and universities seek to develop diverse workforces, there remain questions about whether institutional change strategies have sufficiently met the needs, talents and interests of this workforce. The panel seeks to create opportunities to better understand global voices and institutional models that shape environmental NRSS careers. The panel will begin with panelists sharing their perspectives and experiences in and about the NRSS pipeline, including personal and professional challenges in the NRSS pipeline, and approaches and supports they used to

overcome those challenges. At that time, moderators will ask audience participants to share some of their experiences in the NRSS pipeline. As stories and experiences are shared, a set of discussants will provide their insights and encourage dialogue among panelists and audience participants on institutional change strategies to re-imagine the NRSS pipeline.

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#### 🗣️ Speakers

**Archi Rastogi** Evaluation Specialist, Green Climate Fund

**Courtenay E. Parlee** Research Scientist (American Lobster), Fisheries and Oceans Canada

**Rachel Kelly** Researcher at the Centre for Marine Socioecology, University of Tasmania

### A Roundtable Conversation about IASNR's Code of Ethics: Working Together to Make Ethics Relevant and Real for Members

🕒 6:00pm - 7:30pm, Jun 21

IASNR Meeting/Session

Session Host: IASNR

Session Chair(s): Carla Koons Trentelman, Lee Cerveny, Brett Alan Miller

Ethics are an essential part of all we do as professionals. Yet ethics can be a difficult topic to discuss as it relates to our responsibilities as members of the International Association for Society and Natural Resources (IASNR). Many of us feel we don't really need to give it much thought, "After all," we reason, "I'm a good person, I would never do anything unethical!" – and on that basis we can tend to minimize the importance of a focus on ethics unless someone does something "bad" that needs to be addressed. As such, IASNR has a Code of Ethics in place that primarily consists of **ethical standards** IASNR expects its membership to follow, along with a detailed description of the process for raising concerns about behavior that does not meet those standards, and the potential consequences. However, the Ethics Committee believes our Code can be expanded to be more proactive, based on deeper **ethical principles** that are central to our identity and conduct as professionals. Towards this end, we would like to further develop our Code so it includes the ethical principles members see as foundational to our work and organization. We would also like to begin a dialogue about other important principles that members believe could be better integrated into our organization. In this roundtable we invite all members into this conversation. Through open and respectful dialogue we hope to identify and incorporate all member views, perspectives, and priorities by including as many voices as possible. Participants are invited to bring ethics codes from other organizations into the discussion if they wish.

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#### 🗣️ Speakers

**Carla Trentelman** Professor of Sociology, Weber State University (carlatrentelman@weber.edu)

**Lee Cerveny** USDA Forest Service

**Brett Alan Miller**

Tue, Jun 22, 2021

### New Approaches to Conservation Practice

🕒 8:00am - 9:30am, Jun 22

Session Host: IASNR

Session Moderator: Kate Burgess

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#### 5 Subsessions

- **Recommendations for Wildlife Conservation Funding: Perspectives of Current and Future Environmental Professionals**

🕒 8:00am - 9:30am, Jun 22

- **An exploration of Environmental Conservation Actor Networks in Trinidad and Tobago**  
⌚ 8:00am - 9:30am, Jun 22
- **The Future of Gulf Oyster Management: The Innovation-Decision Process of Stakeholder Support for Management Outcomes**  
⌚ 8:00am - 9:30am, Jun 22
- **The Swiss landscape monitoring program LABES that integrates both physical/spatial and social data: first results from the second run 2020**  
⌚ 8:00am - 9:30am, Jun 22
- **Benefits or barriers: A case study of municipal-NGO collaborations in a PES-like program in Bolivia**  
⌚ 8:00am - 9:30am, Jun 22

### Place-Making and Place Attachment

⌚ 8:00am - 9:30am, Jun 22

Session Host: IASNR

Session Moderator: Kate Mulvaney

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#### 5 Subsessions

- **A framework of Re-Thinking Biophilia, Biophilic Design, and Qi in Outdoor Recreation**  
⌚ 8:00am - 9:30am, Jun 22
- **The relational role of sense of place in private lands management**  
⌚ 8:00am - 9:30am, Jun 22
- **Visions of Wilderness in the Adirondack Park**  
⌚ 8:00am - 9:30am, Jun 22
- **Cross-National Environmental Influences on Life Satisfaction**  
⌚ 8:00am - 9:30am, Jun 22
- **Connections among Puget Sound residents' psychological restoration from natural environments, Place Attachment, and beliefs about environmental governance**  
⌚ 8:00am - 9:30am, Jun 22

### Foodscapes

⌚ 8:00am - 9:30am, Jun 22

Session Host: Jesse Abrams

Session Moderator: Jesse Abrams

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#### 4 Subsessions

- **Freeways and Farms: Veggielution and Taylor Street Urban Farms Study**  
⌚ 8:00am - 9:30am, Jun 22
- **Mobilizing a Just Transition to Grass-based Agriculture**  
⌚ 8:00am - 9:30am, Jun 22
- **Motivations to forage in the midwestern United States**  
⌚ 8:00am - 9:30am, Jun 22
- **Integrating wellbeing into resilience assessment for working agricultural landscapes**  
⌚ 8:00am - 9:30am, Jun 22

## Justice and Equity in Natural Resource Management I

🕒 10:00am - 11:30am, Jun 22

Session Host: IASNR

Session Moderator: Anna Johnston

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### 5 Subsessions

- **Race, Ethnicity, and Natural Resources: Recent Advances in Knowledge and Action**  
🕒 10:00am - 11:30am, Jun 22
- **Blue Justice: perceptions of coastal planners' and small-scale fishers in Northern-Norway**  
🕒 10:00am - 11:30am, Jun 22
- **Identifying Opportunities for Untapped Groups: A Case Study of Environmental Equity in Natural Resources Land Management through Forest Stewardship in the Southeastern Black Belt, U.S.A.**  
🕒 10:00am - 11:30am, Jun 22
- **Christ and the American Mind: An Expansion on Nash's Analysis of Christian Ideals and European Colonization**  
🕒 10:00am - 11:30am, Jun 22
- **The Progressive Turn in American Politics: Biden's Climate Change and Environmental Justice Plan**  
🕒 10:00am - 11:30am, Jun 22

## Outdoor Recreation II

🕒 10:00am - 11:30am, Jun 22

Session Host: Paulus Mau

Session Moderator: Rose Keller

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### 4 Subsessions

- **Monitoring forest recreation based on natural and social scientific data**  
🕒 10:00am - 11:30am, Jun 22
- **Exploring Stress among Korean American Leisure Travelers**  
🕒 10:00am - 11:30am, Jun 22
- **A Social-Ecological Systems Approach to Managing Outdoor Recreation Visitor Use in Parks and Protected Areas**  
🕒 10:00am - 11:30am, Jun 22
- **Wilderness Research in the 21st Century: A Scoping Review of Wilderness Visitor Use Management Research from 2000 to 2020**  
🕒 10:00am - 11:30am, Jun 22

## Adaptation and Adaptive Capacity

🕒 10:00am - 11:30am, Jun 22

Session Host: Kate Sherren

Session Moderator: H.M. Tuihedur Rahman

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### 5 Subsessions

- **Community preferences for climate change adaptation in Interior Alaska: A discrete choice experiment**  
⌚ 10:00am - 11:30am, Jun 22
- **Rethinking the adaptive management cycle: values, governance, framing, and the roles of science**  
⌚ 10:00am - 11:30am, Jun 22
- **Beyond household size: Diversification, access to capital, and adaptation to social-ecological change across household structures in northwestern Pakistan**  
⌚ 10:00am - 11:30am, Jun 22
- **Adaptive governance of forest management in theory and practice**  
⌚ 10:00am - 11:30am, Jun 22
- **Beyond the household: a literature review of scale and aggregation in adaptive capacity research**  
⌚ 10:00am - 11:30am, Jun 22

### Identifying, Engaging, and Understanding Stakeholders

⌚ 10:00am - 11:30am, Jun 22

Session Host: Leah Jones

Session Moderator: Courtney Flint

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#### 5 Subsessions

- **Place, trust, sex, age and education - what drives resistance to mining in developed countries?**  
⌚ 10:00am - 11:30am, Jun 22
- **Evaluating levels of perceived inclusivity and trust among stakeholders in Alaska in a conservation context**  
⌚ 10:00am - 11:30am, Jun 22
- **Characterizing Stakeholder Perceptions of Ecosystem Services and Adaptive Water Governance in the Dolores River**  
⌚ 10:00am - 11:30am, Jun 22
- **Using Understanding of Stakeholders' Social Indicators to Promote Stakeholder Engagement**  
⌚ 10:00am - 11:30am, Jun 22
- **Understanding Stakeholder Priorities in the Santa Fe River Watershed**  
⌚ 10:00am - 11:30am, Jun 22

### Using Crowd-Sourced Data to Inform Nature-Based Recreation Management: Methods, Applications, and Implications

⌚ 12:00pm - 1:30pm, Jun 22

#### Organized Session

Session Host: IASNR

Session Chair(s): Anne Neale, Nathaniel Merrill, Wei-Lun Tsai

Nature-based recreation provides numerous benefits to society. Participation in nature-based recreation can lead to better health and well-being, increased social cohesion, and economic benefits to local communities. Understanding human use of outdoor recreation areas is critical and fundamental for managing recreation on public lands and unveiling the values of nature to society. However, compiling this information consistently across large spatial and temporal scales is often difficult due to logistical and financial constraints. New sources of crowd-sourced data from social media and commercially available samples of aggregated and anonymized cellular device locations offer potential to inform estimates of

visitation and visitor profiles across multiple spatial and temporal scales. The Office of Research and Development (ORD) at the U.S. Environmental Protection Agency (EPA) is collaborating with the U.S. Fish and Wildlife Service and the U.S. National Park Service to develop methods to estimate the values of nature-based recreation to communities and society via these new sources of data. ORD is piloting their research in two communities who were recipients of the Recreation Economy for Rural Communities assistance program, a program jointly sponsored by the U.S. EPA Office of Community Revitalization, the USDA Forest Service, and the Northern Border Regional Commission. This assistance program helps communities promote outdoor recreation as a pathway to community revitalization. This session will share our current state of knowledge on the usage of these new data sources for natural resource management, discuss the modeling approaches for data validation and prediction, explore the utility of these data, and address the challenges and concerns on the usage of social media and cell-phone derived data.

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#### 5 Subsessions

- **Using Human Mobility Data to Understand Visitation to Coastal Recreation Areas**  
🕒 12:00pm - 1:30pm, Jun 22
- **Landscape-scale insights into recreational activities derived from social media content**  
🕒 12:00pm - 1:30pm, Jun 22
- **A Method for Mapping Cultural Ecosystem services for the continental US using Social Media**  
🕒 12:00pm - 1:30pm, Jun 22
- **Exploring the Usage of Human Mobility Data for Understanding Visitation to Parks**  
🕒 12:00pm - 1:30pm, Jun 22
- **Recreation Economy for Rural Communities: Using Data to Inform and Expand Outdoor Recreation Potential in Rural Places**  
🕒 12:00pm - 1:30pm, Jun 22

#### Conservation in Agriculture

🕒 12:00pm - 1:30pm, Jun 22

Session Host: IASNR

Session Moderator: Tatiana Iretskaia

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#### 5 Subsessions

- **Cover Crop Champions: Linking strategic communication strategies with farmer networks to support cover crop adoption**  
🕒 12:00pm - 1:30pm, Jun 22
- **What influences cover crop adoption among farmers in the US Midwest?**  
🕒 12:00pm - 1:30pm, Jun 22
- **Conservation agriculture: A regional place-making approach**  
🕒 12:00pm - 1:30pm, Jun 22
- **Understating Differences Among Motivations of Farmers with Diversity in Adoption of Conservation Practices**  
🕒 12:00pm - 1:30pm, Jun 22
- **Conservation Agriculture in the Chesapeake Bay Watershed: Factors associated with adoption of riparian forested buffers, cover crops, and no till practices**  
🕒 12:00pm - 1:30pm, Jun 22

#### Justice and Equity in Natural Resource Management II

🕒 12:00pm - 1:30pm, Jun 22



Session Host: Leah Jones  
Session Moderator: Leah Jones

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#### 4 Subsessions

- **A Gendered Analysis of Electricity Access and Time Poverty in Zambia**  
⌚ 12:00pm - 1:30pm, Jun 22
- **Community-centered narratives of environmental justice**  
⌚ 12:00pm - 1:30pm, Jun 22
- **Gendered use and restoration of mangrove forests in a community-managed forest in Costa Rica**  
⌚ 12:00pm - 1:30pm, Jun 22
- **Tree equity in a small town**  
⌚ 12:00pm - 1:30pm, Jun 22

### **Managing Urban and Rural-Urban Green Space during a Pandemic: A Panel Discussion of Three Ongoing Projects Documenting the Impact of the COVID-19 Crisis on Outdoor Recreation**

⌚ 2:00pm - 3:30pm, Jun 22

#### **Organized Session**

Session Host: IASNR  
Panel Session Chair(s): Christopher Wynveen, Ingrid Schneider, Michelle Johnson, Sophie Plitt

As the COVID-19 pandemic continues, recognition of the value of urban nature has risen and the use of trails and greenspace in urban areas and along the rural-urban interface have reached record highs. This is, clearly, a response to the perception that greenspaces offer opportunities for exercise and physically distanced socializing. While the use of resource amenities has been documented to have physical and mental health benefits, the density resulting from their increased use during the pandemic may still expose users to disease. In fact, the U.S. Centers for Disease Control issued guidance that many greenspace managers followed to create use-requirements to mitigate virus spread.

Given these details and the difficulties inherent to greenspace management during a pandemic, this discussion will focus on describing the perceptions and behaviors of urban trail and greenspace visitors and document managerial decision-making during the pandemic. Specifically, implications of three ongoing projects will be discussed. The first, using social media posts, seeks to understand how people's responses to greenspace are affected by a global pandemic. The second, using observational techniques, documents adherence to physical distancing guidelines at 14 trails across six U.S. states. And the last, based on interviews with public land managers, gives specific interest to the decision-making frame that arises from local conditions, administrative support, and external partnerships and networks (not only considering the pandemic, but also in the context of renewed national focus on systemic racism across lands along the urban-rural gradient).

Beyond project descriptions, the panelists will discuss the implications of their collective findings on the future of visitors' greenspace use during the pandemic and how that information can inform management. At a minimum the importance of equitable access, messaging, greenspace design, and decision-making frameworks will be discussed.

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#### **Speakers**

**Sonya Sachdeva** Research Scientist, USDA Forest Service

**Megha Budruk** Arizona State University

**Chris Wynveen** Associate Professor, Baylor University

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**Book Release Party: Energy Impacts: A Multidisciplinary Exploration of North American Energy**

## Development

🕒 2:00pm - 3:30pm, Jun 22

### Organized Session

Session Host: Paulus Mau

Panel Session Chair(s): Jeffrey Jacquet, Julia Haggerty, Gene Theodori

Celebrate the release of the new Energy Impacts collected-volume with scholarly presentations from four volume contributors and learn more about the new IASNR book series and partnership with the University Press of Colorado. New forms of energy development have recently proliferated across the United States and around the world, raising questions about social and economic impacts to the places and communities where this development occurs. This book features conceptual and empirical research from leading energy social scientists who study the wide-ranging impacts to local communities across North America. The twelve chapters in this volume focus on varied energy topics such as wind and solar, hydraulic fracturing, and biofuels. Each chapter includes a 1-2 page policy brief that summarizes the work and provides "key takeaways" to apply the findings to policy and public discourse. New ways to think about and analyze energy impacts research are also presented. The volume developed through the efforts of a network funded by the National Science Foundation to coordinate research on the social impacts of energy development across the diverse academic landscape in which this research occurs. A centerpiece of that network was The Energy Impacts Symposium, a two-day research symposium held July 26-27, 2017 in Columbus, Ohio. In concert with the event, we issued a call for submissions to this volume, which read, in part: "Chapters for this book shall compare, synthesize, bridge, or otherwise work to traverse heretofore constraints on coordination of energy impacts research. We are particularly interested in multidisciplinary author teams and papers that bridge academic disciplines."

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### 🗣️ Speakers

**Emily Grubert** Georgia Tech

**John Parkins** University of Alberta

**Myra Moss** Ohio State University

**Jeffrey Jacquet** Ohio State University

**Julia Haggerty** Montana State University

**Gene Theodori** Professor of Sociology, Sam Houston State University

## Approaches to Integrating Social Science in Complex Estuarine Systems

🕒 2:00pm - 3:30pm, Jun 22

### Organized Session

Session Host: Jesse Abrams

Session Chair(s): Rachael Klopfenstein, Jessica Rudnick, Chelsea Batavia

Presentations from three large estuarine systems will be followed by a 30 minute facilitated panel discussion and Q&A period.

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### 🗣️ Speakers

**Jessica Rudnick** California Sea Grant - Delta Stewardship Council

**Darcie Luce** Environmental Planner, San Francisco Estuary Partnership

**Kelly Biedenweg** Associate Professor, Oregon State University

**Amy Handen** EPA

**Chelsea Batavia** Environmental Scientist, Delta Stewardship Council

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### 4 Subsessions

- Integrating social science into science, management, and policy in the California

## Bay-Delta

🕒 2:00pm - 2:20pm, Jun 22

- **Integrating Social Science in Puget Sound Restoration**

🕒 2:20pm - 2:40pm, Jun 22

- **Changing Residential Stewardship Behaviors in the Chesapeake Bay Watershed**

🕒 2:40pm - 3:00pm, Jun 22

- **Panel/Q&A**

🕒 3:00pm - 3:30pm, Jun 22

## Zooming Out to Focus In: How Global Recreation Ecology Perspectives can Improve our Understanding of the Impacts of Human Recreation and Nature-Based Tourism Behaviors

🕒 4:00pm - 5:30pm, Jun 22

### Organized Session

Session Host: IASNR

Session Chair(s): Susan Sidder, Ashley D'Antonio

The field of recreation ecology, commonly defined as the study and mitigation of impacts to natural resources caused by recreation and nature-based tourism activities, is inherently spatial in nature. The location of resource impacts in parks and protected areas (PPA) is a direct function of the location of visitor use relative to the location of resources susceptible to impact. Many factors influence the level, type, and spatial extent of resource impacts such as use-related factors (e.g., volume, concentration, dispersion, and timing) and ecological factors (e.g., environmental conditions, ecosystem type, and preexisting impact or disturbance). Increasingly, recreation ecology researchers are recognizing the need for an integrated, yet global, perspective to inform ongoing and future research. Despite the universality of some recreation ecology principles, important nuances in the relationship between use and impact are context dependent and driven by the social, managerial, and environmental conditions that govern a PPA. Moreover, the impacts of global climate change are likely to disproportionately affect sensitive ecosystems of conservation concern, many of which are not located in the global north. As a field, recreation ecology must work to become globally representative of the range of research contexts and perspectives present within PPA and other nature-based recreation settings. This organized session seeks to address this need for an increasingly global perspective in recreation ecology by highlighting research and/or recreation ecologists conducting recreation ecology work across a global geography. The session will highlight original recreation ecology work while also addressing the themes of creating a global perspective in light of social, ecological, and managerial conditions unique to the research context.

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### 5 Subsessions

- **Commonalities and differences in the scope, scale, focus, and methodologies of advancements in the spatial understanding of visitor impacts generated from global recreation ecology research**

🕒 4:00pm - 5:30pm, Jun 22

- **Recreational trails as conduits for non-native plant invasions in mountain regions: Examples from around the globe**

🕒 4:00pm - 5:30pm, Jun 22

- **Lessons to be learned from Volunteered Geographic Information to manage and understand recreational uses of Parks and Protected Areas**

🕒 4:00pm - 5:30pm, Jun 22

- **World's consensus on trail-erosion management in parks and protected areas: Perspectives from China and other countries**

🕒 4:00pm - 5:30pm, Jun 22

- **Some observations from international collaborations on recreation ecology topics**

🕒 4:00pm - 5:30pm, Jun 22

## Energy Transitions: Perspectives from Australia

🕒 4:00pm - 5:30pm, Jun 22

### Organized Session

Session Host: Tanya Howard

Session Chair(s): Tom Measham, Claudia Benham, Hedda Ransan-Cooper

Australia has long played an important role in the global energy system. For many years Australia has been the largest global exporter of coal and simultaneously experienced the highest uptake of household rooftop solar PV in the world on a per capita basis. Underlying these seemingly contrasting phenomena is a complex and multi-dimensional relationship with energy which plays out in different ways. Moreover, this relationship is continuously evolving, sometimes gradually and sometimes rapidly. After many years of steady expansion of renewable energy for domestic consumption Australia is facing a step change in the size and role of renewables and particularly large scale solar PV. At the same time, fossil fuels remain sharply in the national focus in response to the economic effects COVID-19, with narratives around 'gas-led recovery'. The role for gas in the national energy mix is contested. More broadly, public expectations of all forms of energy are in the spotlight, with renewables and fossil fuels both expected to provide employment growth and income to host regions, re-energise our manufacturing industries and provide cheaper energy prices to consumers. An additional dimension is the spatial effects: with growth in some energy types occurring in different locations to decline in other energy types raising issues of regional vulnerability and resilience. This session brings together a set of presentations which explore issues of national discourse, just transition, energy technology, regional economic effects and social licence relating to Australia's role within the global energy system.

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### 3 Subsessions

- **Australian attitudes and perceptions of large-scale solar: Social licence and the energy transition**  
🕒 4:00pm - 5:30pm, Jun 22
- **The social acceptance of solar farms: It is all about the jobs, or is it?**  
🕒 4:00pm - 5:30pm, Jun 22
- **"Sticking it to the man": distributed energy technology consumption as private energy governance**  
🕒 4:00pm - 5:30pm, Jun 22

## Human Wellbeing & Health

🕒 4:00pm - 5:30pm, Jun 22

Session Host: Jesse Abrams

Session Moderator: Jesse Caputo

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### 5 Subsessions

- **Assessing the Inclusion of Human Wellbeing in the Design and Outcomes of Ecological Restoration in the Great Lakes Region**  
🕒 4:00pm - 5:30pm, Jun 22
- **Psychological Benefits of Viewing an Ecological Pond: an On-Site Study**  
🕒 4:00pm - 5:30pm, Jun 22
- **A geo-spatial analysis of places for nature, wellbeing havens, and urban recreation in Sydney, Australia.**  
🕒 4:00pm - 5:30pm, Jun 22
- **Healthy Passport for Natural Resource Management**  
🕒 4:00pm - 5:30pm, Jun 22
- **Recreational Systems Involving Elderly Health: A Measurement System Using Wearable Devices and AI**  
🕒 4:00pm - 5:30pm, Jun 22

## Conversation on Diversity with the IASNR DEI Committee

🕒 6:00pm - 7:30pm, Jun 22

**IASNR Meeting/Session**

Session Host: IASNR

Session Moderator: Gladman (Glad) Thondhlana

This roundtable session introduces the inaugural IASNR Committee on Diversity, Equity and Inclusion in a manner that facilitates audience participation. DEI is close to the heart of IASNR in its mission, operations and communities of practice. While IASNR has historically committed to diversity, there is still work to be done to make further progress in including and considering the unique voices and perspectives of our members. Considering this era of heightened awareness of social, racial, ethnic, religious, and gender identity-based injustices, among others, IASNR has built its first DEI committee. This roundtable introduces members of the DEI committee, who will provide commentary on their concerns for diverse identities and inclusion of unique perspectives within our collective communities of practice. We are still formulating a near-term agenda to advance issues of diversity, equity and inclusion within the goals and operations of IASNR. The constituents and membership of IASNR is international. As such, it is important to recognize that DEI notions and discourses are shaped by historical context and the social, economic and political systems within and across different countries, thus engendering various interpretation and priorities for DEI strategies around the world. This roundtable session provides an opportunity to engage a discussion on the meanings of diversity, its importance in IASNR, and creating an equitable and inclusive organization that functions as a home for ourselves and our colleagues. Our roundtable will also explore ways to address the entrenched structural issues that reproduce inequalities on race and ethnicity, class, gender identity and other characteristics of identity and culture within IASNR communities of practices and scholarship.

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### 🗣️ Speakers

**Glad Thondhlana** Associate Professor, Rhodes University

**Aby Sene-Harper** Clemson University

**Hillary K Fishler (US DOE)** Idaho National Laboratory

**Xoco Shinbrot** Postdoctoral Scholar, Cornell University

**John Parkins** University of Alberta

**Mwazvita Dalu** University of South Africa

**Ming-Yuan Huang** National Chiayi University

**Watanabe Takehiro** Associate Professor, Sophia University

**Taylor Stinchcomb** PhD Candidate, Purdue University

**William Stewart** IASNR Executive Director, University of Illinois at Urbana-Champaign

Wed, Jun 23, 2021

## 'Meet & Greet' of European(-based) members interested in joining a European IASNR chapter

🕒 8:00am - 9:30am, Jun 23

**Social Event/Session**

Session Host: IASNR

Session Chair(s): Tanja Straka, Margreet Drijfhout

\*This meeting was not recorded. Please contact [tanja.straka@tu-berlin.de](mailto:tanja.straka@tu-berlin.de) for more information\*

We recently proposed to set up a European chapter of IASNR as a way of connecting European and European-based IASNR members. Such a chapter could facilitate finding others working on the interface of natural and social studies in Europe. This way we can get to know each other, and the projects people work on, possibly establish new future collaborations, but also, discuss e.g. current (hot) topics or papers

together that are more European focussed. During the IASNR conference we would like to organise an informal session, a virtual "coffee room", to invite interested members to get to know each other, to learn more on our plans for a European chapter, what future activities are planned, but also to discuss future activities of this European IASNR chapter with you.

## Exploring Capacity for Social Science Research in Natural Resource Management in the Global South

🕒 8:00am - 9:30am, Jun 23

### Organized Session

Session Host: IASNR

Panel Session Chair(s): Fiona Nunan, Clare Barnes, Suparana Katyaini, Philile Mbatha

Managing natural resources requires knowledge of biological, ecological and physical systems, but fundamentally, managing natural resources is about managing people. Governance systems and management rules are concerned with how people use natural resources and how access to natural resources is mediated. This suggests that there is a clear role for social scientists in research into natural resource management and that locally generated social science data, including qualitative, is needed to inform decision-making and implementation. Yet, in many parts of the Global South, capacity for undertaking social science research by people with training in social science theory and research methods is limited. In addition, government officers working in natural resource management, including as environment, fisheries and forest officers, tend to have training in physical and biological sciences, with limited experience of social science research and data. This affects the legitimacy afforded to social science research in natural resource management. This panel discussion will explore reasons for the limited capacity of trained social scientists working in natural resource research in the Global South, the implications of that for natural resource management and what could be done to address both research capacity and how social science research and data are viewed and understood.

### 🗣️ Speakers

**Indika Gunawardana** Technical Advisor, Water Sanitation and Hygiene (WASH) at World Vision Lanka

**Nitin Rai** Fellow, Ashoka Trust for Research in Ecology and the Environment

**Friday Njaya** Director, Department of Fisheries, Malawi

**Christine Noe** Associate Professor of Human Geography, University of Dar es Salaam, Tanzania

## Place, Culture, and Landscape

🕒 8:00am - 9:30am, Jun 23

Session Host: Allie McCreary

Session Moderator: Sudha Kannan

### 5 Subsessions

- **Addressing climate change's impacts on health through local, natural resource based collective action**  
🕒 8:00am - 9:30am, Jun 23
- **Flowering meadows in a multifunctional landscape: nice for people, important for bees and biodiversity**  
🕒 8:00am - 9:30am, Jun 23
- **Importance-performance analysis (IPA) of cultural ecosystem services (CES) of green lands (GL)**  
🕒 8:00am - 9:30am, Jun 23
- **Seasonal Changes in Color Emotion and Landscape Preference for Urban Park Lighting**  
🕒 8:00am - 9:30am, Jun 23

- **How does park spatial design influences our brain and emotion?**

🕒 8:00am - 9:30am, Jun 23

### **Emerging Themes in Renewable Energy**

🕒 8:00am - 9:30am, Jun 23

Session Host: Richelle Winkler

Session Moderator: Shiba Kar

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#### **5 Subsessions**

- **Describing the social gap in utility-scale solar energy: A Michigan case study**  
🕒 8:00am - 9:30am, Jun 23
- **Scale matters: exploring the future social license to operate for seaweed farming for biofuels**  
🕒 8:00am - 9:30am, Jun 23
- **A Governance Network Approach to Offshore Wind – Fisheries Conflict in Southern New England**  
🕒 8:00am - 9:30am, Jun 23
- **Coastal Recreationists' Perceived Impacts, Coping Behaviors, and Attitudes towards Offshore Wind Energy Development in the United States**  
🕒 8:00am - 9:30am, Jun 23
- **“Why are we not talking about big solar and small solar as separate things?” : The role of scale in public support for solar energy development in upstate New York.**  
🕒 8:00am - 9:30am, Jun 23

### **Human-Animal Conflict and Coexistence**

🕒 10:00am - 11:30am, Jun 23

Session Host: IASNR

Session Moderator: Tatiana Iretskaia

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#### **3 Subsessions**

- **Conflict, coexistence, or complexity? Quantifying diverse human-deer interactions across Indiana and their implications for social-ecological management**  
🕒 10:00am - 11:30am, Jun 23
- **What are the roots of the conservation conflict over wildlife? Insights from the cases of large mammals in Poland**  
🕒 10:00am - 11:30am, Jun 23
- **Local Attitudes and Preferences for Reintroduced Species Management**  
🕒 10:00am - 11:30am, Jun 23

### **Advances in Technology and Knowledge Systems**

🕒 10:00am - 11:30am, Jun 23

Session Host: Paulus Mau

Session Moderator: Courtney Flint

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#### **5 Subsessions**

- **Scalar mismatches and underlying factors for underutilization of climate**

### information: Perspectives from farmers and ranchers

🕒 10:00am - 11:30am, Jun 23

- **Using a Knowledge Management System to Improve the Implementation and Coordination of Natural Resource Management Interventions in Malawi**  
🕒 10:00am - 11:30am, Jun 23
- **Understanding barriers and opportunities for diffusion of a decision-support tool: An organizational perspective**  
🕒 10:00am - 11:30am, Jun 23
- **Exploring the role of fire weather and behavior models in wildland fire manager decision-making**  
🕒 10:00am - 11:30am, Jun 23
- **Characterizing the Ecological Health of Rivers and Watersheds: Geospatial Data Opportunities and Challenges**  
🕒 10:00am - 11:30am, Jun 23

### Conserving and Restoring Forests Under Pressure

🕒 10:00am - 11:30am, Jun 23

Session Host: Jesse Abrams

Session Moderator: Kristin Floress

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#### 5 Subsessions

- **By the Book: How Family Forest Landowners Navigate California's Regulatory Forestry Policy Environment**  
🕒 10:00am - 11:30am, Jun 23
- **Does Bid Rent Theory Explain Forest Fragmentation in the Southeastern USA?**  
🕒 10:00am - 11:30am, Jun 23
- **Rural Network Ties: Mapping the Spread of Community-Based Agroforestry and its Outcomes in the Latibonit Region of Haiti**  
🕒 10:00am - 11:30am, Jun 23
- **Shared Stewardship Implementation in Arkansas and North Carolina: A Comparative Analysis**  
🕒 10:00am - 11:30am, Jun 23
- **The inevitability of loss: Values and risk perceptions in adapting forests to climate change**  
🕒 10:00am - 11:30am, Jun 23

### I think I see it, I think I feel it; but how do I 'code' it?

🕒 10:00am - 11:30am, Jun 23

#### Organized Session

Session Host: Katie Epstein

Workshop Session Chair(s): Katie Epstein, Katie Clifford, Hailey Wilmer

\*This meeting was not recorded. Please contact [kathleen.epstein@msu.montana.edu](mailto:kathleen.epstein@msu.montana.edu) for more information\*

A growing interest in the role of emotion and affect in studies of natural resource management has accompanied critical social sciences 'emotional turn' towards more relational approaches. While integrating these new theories suggests the potential for exciting advancements for studying human-environment relations, the 'how to' of identifying and analyzing emotion, affect, and multispecies relations can be less straightforward. In this session, we will bring together natural resource social scientists interested in



working through the opportunities and challenges of engaging with emotion, affect, and multispecies relations and generate collaborative learning and discussion.

Did you recently finish a study using affect or emotion? Or, are you interested in leveraging these approaches in future work? How does you know affect or emotion when you see it? How do we analyze multispecies interactions, and what are the mechanics of a multispecies ethnography? If these questions spark your interest, please join us! We encourage interested participants to bring with them interview guides, survey questions, spatial analysis, or other data collection tools in the spirit of collaborative learning and discussion.

Drop-ins are welcome in this workshop! However, if you know you'd like to participate, sign up here for more information: <https://forms.gle/paGqoSMcmYRKRAZo8>

## Resource and Environmental Management in Canada: Emerging Conflicts, Insecurity and Political Turmoil

🕒 12:00pm - 1:30pm, Jun 23

### Organized Session

Session Host: IASNR

Session Chair(s): John Sinclair, John Parkins

Resource and environmental management issues have been garnering headlines in Canadian newspapers more than ever, underscoring emerging management conflicts, insecurity and political turmoil. As we write this abstract, protests are emerging around the Nunavut Impact Review Boards hearing into the expansion of the Mary River mine in the Northwest Territories. This combines with the ongoing action of many Albertan's who are vocally opposing new coal mining activities on the eastern slopes of the Rocky Mountains. The recent development of a new national impact assessment law also brought unprecedented protests to "kill the bill". And there are other emerging issues such as carbon pricing and federal plans to increase the carbon tax in Canada to \$170 a tonne by 2030.

### 4 Subsessions

- **Co-governance approaches to environmental planning and management in Canada**  
🕒 12:00pm - 1:30pm, Jun 23
- **Free, Prior, and Informed Consent: Barriers and Strategies for Implementation**  
🕒 12:00pm - 1:30pm, Jun 23
- **Regaining public trust in federal impact assessment processes in Canada**  
🕒 12:00pm - 1:30pm, Jun 23
- **The (mis)use of adaptive management in Environmental Impact Assessment: The case of the Mary River iron ore mine in Nunavut, Canada.**  
🕒 12:00pm - 1:30pm, Jun 23

## Natural Resource Social Science & the US Energy Transition ca. 2021

🕒 12:00pm - 1:30pm, Jun 23

### Organized Session

Session Host: IASNR

Panel Session Chair(s): Julia Haggerty, Clark Miller

The 2020 federal elections in the United States have the potential to create a major policy window that will accelerate the energy transition already underway thanks to market and state-level policies. This acceleration, and the transition generally, will have profound effects on sites and processes long of interest to natural resource social scientists, such as energy resource landscapes (Bridge et al 2018), their management, and social dimensions.

This panel will provide an opportunity for dialogue about the opportunities (and challenges) for natural resource social science to contribute to policies and practices implied by the notion of a "Just Transition." Panelists and audience members with perspectives on the research-policy interface, policy making, and the evolution of natural resource social science will engage in lively interactive dialogue about questions such

as:

Where does NRSS start and end in its relationship to STS or other subdisciplines viz a viz problematizing energy and society questions? What do we bring to the table? Who are our new and emerging cousin subdisciplines and associated paradigms, theories and concepts?

What are the known unknowns with respect to societal transformation and energy system transitions (in the realm of natural resources)? What are the barriers to operationalizing familiar lessons in agencies?

What are the lessons from past episodes of surging industrial development with respect to building an effective NRSS agenda?

If you had \$20m from the DOE to redesign facility siting processes, what NRSS research would you turn to and what questions still need to be answered?

Is the social acceptance literature where it needs to be?

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#### Speakers

**Emily Grubert** Georgia Tech

**Richard Stedman** Cornell University

### Water Quality

🕒 12:00pm - 1:30pm, Jun 23

Session Host: Tierney Bosci

Session Moderator: Becca Nixon

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#### 4 Subsessions

- **Managing water quality in Big Green Lake: Investing in understanding the social landscape**  
🕒 12:00pm - 1:30pm, Jun 23
- **Institutional fit as a lens for watershed-level management**  
🕒 12:00pm - 1:30pm, Jun 23
- **Agricultural Conservation and Water Quality in NY State**  
🕒 12:00pm - 1:30pm, Jun 23
- **Building an Understanding of Coastal Water Quality Perceptions of Marine Recreationists**  
🕒 12:00pm - 1:30pm, Jun 23

### Meet the Editors of *Society & Natural Resources* – the Journal of IASNR

🕒 2:00pm - 3:30pm, Jun 23

**IASNR Meeting/Session**

Session Host: IASNR

Panel Session Chair(s): Kristin Floress, Emily S. Huff

*Society & Natural Resources* published its first issue in 1998. Since then, the journal has grown to encompass ever more natural resource topics and academic disciplines and strives to remain relevant to natural resources management scholars and practitioners. As of July 2020, Dr. Kristin Floress (USDA Forest Service - Northern Research Station), and Dr. Emily S. Huff (Michigan State University, Department of Forestry) began their term as Co Editors in Chief. During this session, Kristin and Emily will introduce themselves, discuss the plans they set out to accomplish during the term as co-EICs and give a brief update of journal statistics and progress towards their goals. Join us to learn more and to ask any questions about the journal, editorial process, or general scholarship in human dimensions of natural resources and associated disciplines.

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### 🗣️ Speakers

**Kristin Floress** Research Social Scientist, USDA Forest Service

**Emily S. Huff** Michigan State University

**Jessica Hill** IASNR

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## Integrating Human Wellbeing in Restoration Planning

🕒 2:00pm - 3:30pm, Jun 23

### Organized Session

Session Host: Paulus Mau

Panel Session Chair(s): David Trimbach, Kelly Biedenweg

This panel presents the status of human wellbeing integration in ecosystem restoration planning at local and regional scales in the Puget Sound region of Washington State (USA). We will highlight our integration efforts thus far, lessons learned, and next steps. The panel will include human wellbeing integration insights from local watershed groups, public agency partners, and regional social scientists. Topics will include: 1) the results of an analysis exploring the structural factors affecting social science integration in ecosystem restoration; 2) integration tools and resources; and 3) practitioner reflections from integrating human wellbeing and ecosystem services with restoration planning.

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### 🗣️ Speakers

**David Trimbach** Oregon State University

**Kelly Biedenweg** Associate Professor, Oregon State University

**Leah Kintner** Ecosystem Recovery Manager, Puget Sound Partnership

**Lori Clark** Island County Local Integrating Organization

**Haley Harguth** Watershed Program Manager, Hood Canal Coordinating Council

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## Management and Co-Management of Public Lands

🕒 2:00pm - 3:30pm, Jun 23

Session Host: Jesse Abrams

Session Moderator: Jesse Abrams

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### 5 Subsessions

- **Biodiversity and the Management of the Military Training Landscape**

🕒 2:00pm - 3:30pm, Jun 23

- **Management Practices and Potential of School Forest Utilization in Wisconsin**

🕒 2:00pm - 3:30pm, Jun 23

- **Public land management partnerships in the era of COVID-19**

🕒 2:00pm - 3:30pm, Jun 23

- **Assessing relationships between subsistence use and place values around Denali National Park and Preserve.**

🕒 2:00pm - 3:30pm, Jun 23

- **Scientists, Uncertainty and Nature, an Analysis of the Development, Implementation and Unintended Consequences of the Northwest Forest Plan**

🕒 2:00pm - 3:30pm, Jun 23

## Keynote - Bridging Work: The Pond, The River and The Network

🕒 4:00pm - 5:00pm, Jun 23

### Keynote

Session Host: IASNR

Session Moderator: Kate Sherren

Authors: Ruth Beilin

The title of this year's virtual conference immediately evoked the local-global paradox that all of us experience in daily life, whether buying a coffee or considering climate change or COVID 19. The local-global paradox in social ecological terms and the recognition or repositioning of social sciences to effectively conjure our place and contribution in the world, emphasises our dependence on networks. These networks are the pathways we traverse within complex relational systems: social ecological systems, and in academic and experiential learning and research systems. The characteristics of complex systems: dynamic, self-organising, relational, non-linear, and having emergent properties may equally apply to local-global networks. The points of difference we bring to our engagement with the world as social scientists in a biophysical context, is to consistently re-examine how we connect to the changes we envisage as critical to our paths.

In this presentation I pursue three ideas that acknowledge the connections between our aspirations for IASNR as a global association; and our practices as social scientists in material or biophysical disciplines which are frequently separated from the social. I consider Barad's (2007) metaphor of throwing a stone into a pond...a metaphor that allows us to pursue diffracted and multiple pathways; rather than a single reflected tradition. Respectfully borrowing from Latour (2005), I reposition our task, associated here with bridging the social and the natural sciences to consider the bridge builders and the river. And, I argue for the importance of acting in the present—the Eternally Unfolding Present (EUP)--as in Cook and Wagenaar's (2012) study and which itself built on a particular tradition in Japanese philosophy.

Through a series of narrative, place-based case studies from over 30 years of experience in community-based land and water management, and referencing the pond, the river and the network, I will argue that the survival of social ecological life depends on us as social science practitioners, stepping up to re-examine the ways in which we can contribute to much needed local-global social ecological justice. Diffraction, being in the flow (rather than on the bridge) and understanding the potential of acting in the present as we understand the power of relational and networked dynamics-- are concepts that enhance meaningful engagements as practitioners in dynamic and complex times.

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### 🗣️ Speaker

**Ruth Beilin** Professor, University of Melbourne

## Indigenous Knowledge and Natural Resource Management: Innovations from the Field of Cultural Science in Australia

🕒 6:00pm - 7:30pm, Jun 23

### Organized Session

Session Host: Tanya Howard

Panel Session Chair(s): Tanya Howard

\*This meeting was not recorded. Please contact [thoward9@une.edu.au](mailto:thoward9@une.edu.au) for more information\*

Natural resource management in Australia usually proceeds from a post-colonial view of the landscape and waterways that oscillates between resource exploitation and environmental protection. Despite a growing acknowledgement of pre-colonial land management practices by Australia's Aboriginal people, there has been little integration of Aboriginal core values in contemporary NRM practice. This panel presents innovative work underway across different land tenures in NSW, demonstrating how the deep wisdom that resides in Aboriginal cultures can contribute to resilience of both natural and social systems. Examples include fire management on the Wattleridge Indigenous Protected Area and Malleefowl cultural depiction and story for rangelands management on Nagyampaa Country.

This panel will include a mix of short film, Aboriginal and non-Aboriginal voices, research papers, discussion and Q&A.

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## 📣 Speakers

**Mal Ridges** NSW Government

**Michelle McKemey** Honorary Associate, University of New England

**Geoff Simpson** Cultural Science Team, NSW Government

**Tremaine Patterson** Banbai Rangers, Guyra NSW

## Quiz Bowl

🕒 6:00pm - 7:00pm, Jun 23

### Student Event/Session

Session Host: Kinda De'Arman

Session Moderator(s): Kinda De'Arman, Elizabeth Golebie, William (Bill) Stewart

\*This meeting was not recorded. Please contact [info@iasnr.org](mailto:info@iasnr.org) for more information\*

Quiz Bowl is a fun event where student teams compete in a trivia-style question-based game. The atmosphere is lighthearted, jovial, and is meant to encourage camaraderie among IASNR Student Members. Each individual on the winning team will be awarded a prize sponsored by Taylor and Francis.

Graduate and undergraduate students may participate on teams consisting of 3-5 members. Teams comprised of students from the same university or from multiple universities are equally encouraged. In order to sign up, please contact Kindra De'Arman via email at [kindrad@uoregon.edu](mailto:kindrad@uoregon.edu) or in the Whova App. by June 22nd at 6 pm CDT with your team's name, list of 3-5 team members, and each player's email address. If you do not have a team, you may also sign up individually - simply email Kindra with your name, university, and level (graduate or undergraduate) and you will be placed on a team with other students.

The 2021 IASNR student quiz bowl will take place virtually on the web-based Zoom platform. You can login to this event through the link below or by calling in via telephone. If you wish to call into the event, please contact Kindra De'Arman via email or the Whova App. by June 22nd at 6 pm CDT with your time zone to receive a location-specific phone number. Please note that some questions utilize images and those who call-in will not be able to see these visuals.

Question categories span global topics related to climate change, COVID-19, environmental justice, research methods, social theories, and parks or protected areas.

[Click here to view the Quiz Bowl rules.](#)

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## 📣 Speakers

**Kindra De'Arman** University of Oregon

**Elizabeth Golebie** University of Illinois at Urbana-Champaign

**William Stewart** IASNR Executive Director, University of Illinois at Urbana-Champaign

## Student Happy Hour

🕒 7:00pm - 8:00pm, Jun 23

### Social Event/Session Student Event/Session

Session Host: Kinda De'Arman

Session Moderator(s): Kinda De'Arman, Elizabeth Golebie, William (Bill) Stewart

\*This meeting was not recorded. Please contact [info@iasnr.org](mailto:info@iasnr.org) for more information\*

The Student Happy Hour is an informal social hour for IASNR members to meet and greet. This event follows the Student Quiz Bowl and uses the same web-based Zoom platform login link. Please email Kindra De'Arman at [kindrad@uoregon.edu](mailto:kindrad@uoregon.edu) or message in the Whova App. if you would like to join this event via telephone and need a location-specific phone number.

## 📣 Speakers

**Kindra De'Arman** University of Oregon

**Elizabeth Golebie** University of Illinois at Urbana-Champaign

**William Stewart** IASNR Executive Director, University of Illinois at Urbana-Champaign

Thu, Jun 24, 2021

## Institutional Diversity and Inter-Institutional Gaps in Natural Resource Management

🕒 8:00am - 9:30am, Jun 24

### Organized Session

Session Host: IASNR

Session Chair(s): HM Tuihedur Rahman, Ashlee-Ann Pigford

Several interventions have been to enhance public participation in natural resource management for ensuring social equity and justice among resource using communities. Initiatives like participatory natural resource management and policy making have significantly contributed to social-ecological sustainability and offered important lessons about community engagement. Yet, these interventions have been heavily criticized for their inability to address local resource management culture and politics, which often surfaces as conflicting interactions between resource dependent communities and governments. Thus, we need innovative conceptual and analytical tools to help better understand different modes of interactions between communities and governments. Analyzing Institutions – the mutually agreed upon sets of rules to regulate human actions – can be a useful avenue to study the community-government interactions. Institutions can be both formal and informal with the prior having codified and clearly delineated rules and the later comprising non-codified social norm-based rules. Formal institutions are made externally and at a larger scale and executed by a hierarchically organized bureaucratic system. Informal institutions are made at a local scale using local knowledge and cultural practices and enforced by socially organized actors. Both institutions can operate simultaneously to manage a natural resource system, and lack of coordination between them may result in mistrust and conflicts. This session will demonstrate how to reveal the mismatches between the governments' policies and practices and resource dependent communities' culture and resource management politics. In this session, a total of five 12-minutes presentations will explain the conceptual, methodological and empirical aspects of studying the mismatches and their implications in natural resource management followed by a 30-minutes of question-answer and discussion.

### 5 Subsessions

- **Institutional diversity in sustainable natural resource management**  
🕒 8:00am - 9:30am, Jun 24
- **Understanding inter-institutional gaps: A framework for analyzing gaps between formal and informal institutions**  
🕒 8:00am - 9:30am, Jun 24
- **Mining for development as a failed paradigm: A comparative policy review of developed and developing states**  
🕒 8:00am - 9:30am, Jun 24
- **Managing with logic: A Bayesian Causal Network assessment using the critical list of variables for sustaining the commons in the Monarch Reserve**  
🕒 8:00am - 9:30am, Jun 24
- **Discussant**  
🕒 8:00am - 9:30am, Jun 24

## Human Dimensions of Hunting

🕒 8:00am - 9:30am, Jun 24

Session Host: IASNR

Session Moderator: Dawn Harfmann

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#### 4 Subsessions

- **Community perspectives of empowerment from trophy hunting tourism in Namibia's Bwabwata National Park**  
⌚ 8:00am - 9:30am, Jun 24
- **Examining Family Forest Owner Behaviors through an Identity Theory Lens: The Influence of Deer Hunter Identity**  
⌚ 8:00am - 9:30am, Jun 24
- **Frequency of Shellfish Harvest and Recreation Shellfish Harvest Closures, insights from Puget Sound**  
⌚ 8:00am - 9:30am, Jun 24
- **An Exploration of the Adaptive Capacity of Community-Based Organizations in Northern Botswana in Response to a Hunting Ban**  
⌚ 8:00am - 9:30am, Jun 24

#### Planning, Policy, and Resilience

⌚ 8:00am - 9:30am, Jun 24

Jesse Abrams: Jesse Abrams  
Session Moderator: Will Rifkin

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#### 5 Subsessions

- **Interconnections between Resilience and Sustainability: Fresh Perspectives for Better Planning and Policy Formulation**  
⌚ 8:00am - 9:30am, Jun 24
- **Facilitating urban sustainability through transdisciplinary (TD) research: Lessons from Ghana, South Africa and Zimbabwe**  
⌚ 8:00am - 9:30am, Jun 24
- **Inspecting the importance of landscape approach for designing resilient city**  
⌚ 8:00am - 9:30am, Jun 24
- **Bridging the Gap: Intersections between Social and Ecological Science in Turfgrass Lawns**  
⌚ 8:00am - 9:30am, Jun 24
- **Risk governance for the urban forest: Managing complexity, uncertainty, and ambiguity**  
⌚ 8:00am - 9:30am, Jun 24

#### Communication in Natural Resource Conservation

⌚ 8:00am - 9:30am, Jun 24

Session Host: Tierney Bosci  
Session Moderator: Elizabeth Golebie

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#### 5 Subsessions

- **Building a community of climate communicators in agriculture**  
⌚ 8:00am - 9:30am, Jun 24
- **Science Communication across Diverse Ways of Knowing and Collaboration in a Landscape-Scale Natural Resource Governance Network**

🕒 8:00am - 9:30am, Jun 24

- **Halt, who goes there? Analyzing cultural sites as liminal spaces across political affiliation in Washington, D.C.**

🕒 8:00am - 9:30am, Jun 24

- **Information before hydration: An exploration of the relationship between drinking water behavior and information accuracy**

🕒 8:00am - 9:30am, Jun 24

- **Using Audience Segmentation to Encourage Public Engagement in Meaningful, Knowledge-based Freshwater Resource Protection**

🕒 8:00am - 9:30am, Jun 24

## **Advancing Methods for Social and Economic Monitoring of Community Resilience in the Context of Resource Management by U.S. Federal Agencies**

🕒 10:00am - 11:30am, Jun 24

### **Organized Session**

Session Host: IASNR

Session Chair(s): Mark Adams, Heidi Huber-Stearns

Many resource management actions by federal land management agencies require monitoring of potentially related social and economic change. In theory, such monitoring is an essential component of adaptive management, particularly if supporting community resilience is a priority objective. In practice, the full adaptive management potential of socioeconomic monitoring is probably rarely realized. Lack of capacity within agencies to do socioeconomic monitoring, and analytical methodology challenges are major impediments.

This session presents four examples of large-scale socioeconomic monitoring projects conducted via partnership between the U.S. Forest Service and the Universities of Oregon and Montana. Two examples are drawn from the recently completed 25-year update to the Northwest Forest Plan monitoring reports. The third established a monitoring protocol for understanding the potential short and long-term impact of a major management transition recently initiated on the Tongass National Forest. The fourth example describes a nation-wide project to improve estimates of the location and size of economic impacts associated with federal timber harvesting using mill survey data. All four papers report methodological innovations, prompted by issues of limited technical capacity and budget, data shortcomings, and/or desire for local stakeholder engagement. These innovations yielded new insights, undetected by previous monitoring efforts, into the relationships among federal agency management direction, regional economic and demographic trends, and socioeconomic characteristics of rural forest-based communities.

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### **5 Subsessions**

- **A county typology approach to determining association between social vulnerability trends and federal forest lands management in the Northwest Forest Plan monitoring region**

🕒 10:00am - 11:30am, Jun 24

- **Assessing 25 years of socioeconomic change in forest-based communities under the Northwest Forest Plan.**

🕒 10:00am - 11:30am, Jun 24

- **Social and Economic Monitoring of the Tongass National Forest and Southeast Alaska Communities**

🕒 10:00am - 11:30am, Jun 24

- **A new approach to monitoring changes in federal timber consumption and utilization with implications for employment and income**

🕒 10:00am - 11:30am, Jun 24



- **Discussant**

🕒 10:00am - 11:30am, Jun 24

## **Decision-Making in Conservation and Restoration**

🕒 10:00am - 11:30am, Jun 24

Session Host: Paulus Mau

Session Moderator: Cristina Watkins

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### **5 Subsessions**

- **Measuring and Modeling the Drivers of Public Engagement and Support for Environmental Protection and Ecological Restoration**  
🕒 10:00am - 11:30am, Jun 24
- **A tale of two fires: retreat and rebound a decade after wildfires in California and South Carolina**  
🕒 10:00am - 11:30am, Jun 24
- **Do cultural ecosystem services matter in wetland protection? A Delphi survey approach**  
🕒 10:00am - 11:30am, Jun 24
- **Wetlands protection and planning: What do experts say constitutes "good" decision making?**  
🕒 10:00am - 11:30am, Jun 24
- **Longitudinal community impacts after fire: A restudy of the 2010 Schultz Fire and subsequent flooding**  
🕒 10:00am - 11:30am, Jun 24

## **Rural Community Dynamics**

🕒 10:00am - 11:30am, Jun 24

Session Host: Kate Sherren

Session Moderator: Taylor Stinchcomb

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### **5 Subsessions**

- **Watch Out for Cows in the Ochoco! Forest Collaboratives and Pressure from Rapid Growth in Prineville, Oregon: Part One**  
🕒 10:00am - 11:30am, Jun 24
- **Ecological Modernization or Treadmill of Production? The Modernization of Artisanal Fishing Communities on Andros Island, The Bahamas.**  
🕒 10:00am - 11:30am, Jun 24
- **Community Resilience in Resource Dependent Communities, Navigating Extreme Events & Energy Transition: A Wyoming Case Study**  
🕒 10:00am - 11:30am, Jun 24
- **Vision and Strategies of Heritage Economies in Two Next West Towns - Part II: Imprisoned in Path Dependencies? Anticipating What is Next in Susanville, California**  
🕒 10:00am - 11:30am, Jun 24
- **Can the Subsistence Users Speak?: Locating voices, places, and interspecies relations with the Roadless Rule Exemption Federal Subsistence Hearings in Southeast Alaska**  
🕒 10:00am - 11:30am, Jun 24

## Living With Industrial Legacies: The Role of Place, Identity, and Capacity in Rural Communities' Response to Water Contamination

🕒 12:00pm - 1:30pm, Jun 24

### Organized Session

Session Host: IASNR

Session Chair(s): Grete Gansauer, Megan Moore, Elizabeth Metcalf, Julia Haggerty

Resource peripheries around the world bear the environmental and public health costs of primary production. Water quality impacts, in particular, may pervade rural communities long past industry lifetimes, as local hydrologic ecologies are altered due to industrial waste or water use. Local scale governance is on the front lines of responding to such impacts. This session brings together research from post-industrial social ecological systems with agriculture and mining histories to explore the place-based impacts of water quality degradation. We focus on the role of place, identity, and community capacity as themes that shape water quality governance and perceptions across contexts. We explore how situated dynamics such as collective memory, social capital, and local history influence communities' response to post-industrial water problems. The highly localized and context-specific nature of these processes raises urgent questions for water quality governance, community resilience, trust, and inter-scalar interactions between local and regional solutions. This session contributes to a lively research and policy debate in resource governance, and advocates taking place-based contexts seriously in planning for environmental transition.

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### 5 Subsessions

- **Collective Memory in Anaconda, Montana: The Missing Link**  
🕒 12:00pm - 1:30pm, Jun 24
- **Community Resilience Insights from Two Superfund Towns**  
🕒 12:00pm - 1:30pm, Jun 24
- **The social memory of infrastructure and community resilience: One hundred years of a rural public water system**  
🕒 12:00pm - 1:30pm, Jun 24
- **A regional solution to a regional problem? (D)evolution of community water management across the Judith River Watershed, Montana**  
🕒 12:00pm - 1:30pm, Jun 24
- **Discussant**  
🕒 12:00pm - 1:30pm, Jun 24

### Private Land Conservation

🕒 12:00pm - 1:30pm, Jun 24

Session Host: Kate Sherren

Session Moderator: Kate Sherren

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### 4 Subsessions

- **The Role of Private Landowners in Protected Area-Centered Ecosystem (PACE) Management**  
🕒 12:00pm - 1:30pm, Jun 24
- **Identifying new landowners and patterns of land transfer to improve landowner outreach**  
🕒 12:00pm - 1:30pm, Jun 24
- **The Role of Identity in Conservation Actions on Private Lands: A Systematic Review**  
🕒 12:00pm - 1:30pm, Jun 24
- **Private Landowners, Policy, and Kirtland's Warbler Habitat in Wisconsin's Central**

## Sands

🕒 12:00pm - 12:00pm, Jun 24

### Recreation, Tourism, and Parks

🕒 12:00pm - 1:30pm, Jun 24

Session Host: Michala Hendrick

Session Moderator: Michala Hendrick

#### 4 Subsessions

- **I'm going on safari!? Possible benefits of virtual nature-based tourism to participants' health and well-being**  
🕒 12:00pm - 1:30pm, Jun 24
- **2020 summer in the parks? Insights from state park systems: COVID-19 messages to potential visitors and advancement of the managing outdoor recreation framework**  
🕒 12:00pm - 1:30pm, Jun 24
- **Health-related safety at parks: An exploration of outdoor recreationist's perceptions during a pandemic**  
🕒 12:00pm - 1:30pm, Jun 24
- **Environmental- and individual- level determinants of outdoor recreation participation during the COVID-19 pandemic**  
🕒 12:00pm - 1:30pm, Jun 24

### Conversation on Mentorship for IASNR

🕒 2:00pm - 3:30pm, Jun 24

IASNR  
Meeting/Session

Student Event/Session

Session Host: IASNR

Session Moderator(s): William (Bill) Stewart, Mark Rouleau, Tanya Howard, Milton Newberry III, Kindra De'Arman, Tanja Straka, Dana Johnson

\*This session was not recorded. Please contact [inof@iasnr.org](mailto:inof@iasnr.org) for more information.\*

The mentorship program has been an in-demand activity related to IASNR conferences. More than 400 of members have participated in the mentorship program since 2015, with mentees out-numbering mentors by a 2:1 ratio. The strong demand has made it a hallmark activity of our conferences. There are growing interests in revising the mentorship program to last longer than the week of the conference, and to do so in ways that would lead to more meaningful connections. Two IASNR committees have been collaborating to explore options to review and expand the mentorship program – the Professional Development and the Student Affairs committees. This roundtable session builds on last year's mentorship focus group activities by engaging the audience in a discussion on the issues surrounding mentorship and strategies for moving forward. We are interested in hearing from prospective and former mentees, mentors, and any others who would like to provide comment. Please come ready to listen and share insights on the future of mentorship in IASNR.

#### 🗣️ Speakers

**William Stewart** IASNR Executive Director, University of Illinois at Urbana-Champaign

**Mark Rouleau** Michigan Technological University

**Tanya Howard** University of New England

**Milton Newberry** Sustainable Technology Director, Bucknell University

**Kindra De'Arman** University of Oregon

**Tanja Straka** Postdoctoral Researcher, Technische Universität Berlin

## Soundscapes and Conservation

🕒 2:00pm - 3:30pm, Jun 24

Session Hosts: Paulus Mau

Session Moderator: Elizabeth Perry

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### 4 Subsessions

- **Advancing soundscape management by expanding visitor perception variables and citizen science**  
🕒 2:00pm - 3:30pm, Jun 24
- **Thinking outside the park: Connecting urban visitors' perceptions of their home and work soundscapes with their acoustic experiences of a natural protected area.**  
🕒 2:00pm - 3:30pm, Jun 24
- **Exploring Acoustic Impacts and Soundscape Perceptions in Parks and Protected Areas: Evidence from Muir Woods National Monument**  
🕒 2:00pm - 3:30pm, Jun 24
- **Understanding Park Visitor Perceptions of Road Noise and Related Management Actions: A Case Study from Death Valley National Park**  
🕒 2:00pm - 3:30pm, Jun 24

## Water Governance

🕒 2:00pm - 3:30pm, Jun 24

Session Host: Wusu Conteh

Session Moderator: Brooke McWherter

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### 5 Subsessions

- **Breaking down silos: Overcoming barriers for collaborative nexus governance**  
🕒 2:00pm - 3:30pm, Jun 24
- **Technology Adoption & Social Acceptance: Understanding Homeowners' Willingness to Adopt Innovative/Alternative Septic Systems**  
🕒 2:00pm - 3:30pm, Jun 24
- **Defining organizational stewardship: Analysis of LA River Watershed stewardship group mission statements**  
🕒 2:00pm - 3:30pm, Jun 24
- **Understanding Urban Water Conservation through Archetypes**  
🕒 2:00pm - 3:30pm, Jun 24
- **Challenges and benefits of conducting community-engaged research to influence water management during the COVID-19 pandemic**  
🕒 2:00pm - 3:30pm, Jun 24

## Human Dimensions of Livestock Management

🕒 2:00pm - 3:30pm, Jun 24

Session Host: Jeese Abrams

Session Moderator: Jesse Abrams

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## 5 Subsessions

- **How do we define beef grazing management? Why we need an agreed upon definition and an understanding of the range of beef grazing management styles.**  
🕒 2:00pm - 3:30pm, Jun 24
- **Evaluating Chronic Wasting Disease risk perception among Michigan meat processors and hunters**  
🕒 2:00pm - 3:30pm, Jun 24
- **Adaptive grazing, systems thinking and well-being: a survey of beef producers in Canada**  
🕒 2:00pm - 3:30pm, Jun 24
- **Dewormers, Dung Beetles, and Decision-Making: Understanding South Dakota Rangeland Livestock Producers' Usage of Parasiticides**  
🕒 2:00pm - 3:30pm, Jun 24
- **Assessing the Social Vulnerability of Maine Communities to Lyme Disease**  
🕒 2:00pm - 3:30pm, Jun 24

## All Member's Meeting

🕒 4:00pm - 5:00pm, Jun 24

### IASNR Meeting/Session

Session Host: IASNR

Session Moderator: William (Bill) Stewart

Our all-members meeting has also been called the General Assembly or the IASNR Business Meeting. It is a gathering open to all IASNR members as defined in our Constitution and Bylaws. In the past, an all-members meeting has been convened every year during our annual conference to address issues of importance to the organization and all the members. During the all-members meeting, Executive Officers normally share a brief overview of the past year and encourage everyone to become more actively involved with all aspects of IASNR operations. All IASNR standing and ad-hoc committees would give a brief update on their recent activities, and exciting news of student paper awards and SNR best paper awards get shared. Also, it is always fun to hear from the hosts of the upcoming IASNR Conference and learn about the exciting programs they have in store for all the members. Another important function of the all-members meeting is that all decisions calling for votes, shall be taken by a simple majority of all IASNR members present at the meeting. This year we will have a vote on proposed changes to IASNR governance documents.

This meeting has been scheduled twice in the program for participants in different time zones.

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## 18 Subsessions

- **Executive Director - All Member's Opening**  
🕒 4:00pm - 5:00pm, Jun 24
- **Current and Incoming Council Member Introductions**  
🕒 4:00pm - 5:00pm, Jun 24
- **Discussion on Governance document changes**  
🕒 4:00pm - 5:00pm, Jun 24
- **Treasurer's Report**  
🕒 4:00pm - 5:00pm, Jun 24
- **Student Affairs Committee Update**  
🕒 4:00pm - 5:00pm, Jun 24
- **Elections Committee Update**  
🕒 4:00pm - 5:00pm, Jun 24

- **Ethics Committee Update**  
⌚ 4:00pm - 5:00pm, Jun 24
- **Diversity, Equity and Inclusion**  
⌚ 4:00pm - 5:00pm, Jun 24
- **Professional Development Committee Update**  
⌚ 4:00pm - 5:00pm, Jun 24
- **Conference Support Committee Update**  
⌚ 4:00pm - 5:00pm, Jun 24
- **Call for Proposals to Host The IASNR Conference 2024 and Beyond**  
⌚ 4:00pm - 5:00pm, Jun 24
- **Publications Committee Update**  
⌚ 4:00pm - 5:00pm, Jun 24
- **Membership Committee Update**  
⌚ 4:00pm - 5:00pm, Jun 24
- **Best Student Paper Awards**  
⌚ 4:00pm - 5:00pm, Jun 24
- **Rabel J. Burdge & Donald R. Field Outstanding Article Award**  
⌚ 4:00pm - 5:00pm, Jun 24
- **2022 IASNR Conference Planning Committee Update**  
⌚ 4:00pm - 5:00pm, Jun 24
- **Open discussion**  
⌚ 4:00pm - 5:00pm, Jun 24
- **Closing**  
⌚ 4:00pm - 5:00pm, Jun 24

## Rivers and Watersheds as Transdisciplinary Action Arenas

⌚ 4:00pm - 5:30pm, Jun 24

### Organized Session

Session Host: IASNR

Session Chair(s): Courtney Flint

Rivers and watersheds are highly complex systems and successful understanding and management of dynamic and challenging circumstances requires integrating social and eco-hydrological dimensions. Capitalizing on opportunities for learning is not only critical among diverse stakeholders, but also among researchers and practitioners who study and lead river and watershed management. This session draws upon experiences of professionals representing physical and social sciences and river and watershed management in the U.S. and Australia. Presenters describe the context of their river research and practice, highlighting successes and challenges in bridging dimensions and working with diverse stakeholders. Discussion will address gaps and obstacles that remain in the way of sound and sustainable river and watershed decisions and management.

### 5 Subsessions

- **Exploring the social ecology of rivers through river and watershed organizations in the Intermountain West of the US**  
⌚ 4:00pm - 5:30pm, Jun 24
- **What we've learned from 10 years of integrating biophysical and social research to improve outcomes of environmental flows in Australia**  
⌚ 4:00pm - 5:30pm, Jun 24
- **Foundational Conditions Enabling Collaborative Resource Management in Two**

## Geographically and Regulatorily Different Watersheds

🕒 4:00pm - 5:30pm, Jun 24

- **Barriers and drivers of river conservation behaviour: A profiling approach**  
🕒 4:00pm - 5:30pm, Jun 24
- **Challenges of maintaining ecosystem functional objectives along regulated rivers: A case study from the Middle Rio Grande, New Mexico, USA.**  
🕒 4:00pm - 5:30pm, Jun 24

## Ecological Grief and Community Responses to Environmental Loss in the Anthropocene

🕒 4:00pm - 5:30pm, Jun 24

### Organized Session

Session Host: Claudia Benham

Session Chair(s): Claudia Benham, Melanie Zurba

As the world experiences the increasingly acute effects of anthropogenic climate change and biodiversity loss, ecological grief - emotional suffering associated with the loss of valued environments - is becoming more widespread. In this session, we explore the phenomenon of ecological grief through a series of presentations that showcase the contribution of interdisciplinary research to understanding this emerging societal challenge. The session brings together topics such as youth responses to climate grief, the relationship between ecological grief and artistic practice, and community experiences of grief and environmental loss in a discussion that highlights the deeply social experience of ecological loss, the relationship between ecological grief and place, and the intricate dependence of people on the environment, and each other.

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### 4 Subsessions

- **Creating vocabularies and rituals for climate grief through multiple knowledge systems and the artistic process**  
🕒 4:00pm - 5:30pm, Jun 24
- **Examining How Politically Active Youth in Mi'kma'ki Respond Emotionally to the Climate Crisis**  
🕒 4:00pm - 5:30pm, Jun 24
- **Climate Grief in Canada: Vocabularies, Rituals, and Policy Implications**  
🕒 4:00pm - 5:30pm, Jun 24
- **Ecological grief at the local scale: coming to grips with Great Barrier Reef futures**  
🕒 4:00pm - 5:30pm, Jun 24

## Coffee Break: Social Networking in the Asia Pacific Region

🕒 6:00pm - 7:30pm, Jun 24

### Social Event/Session

Session Host: Jennifer Bond

Workshop Session Chair(s): Tanya Howard, Jen Bond

We invite conference participants to this informal session, a virtual "coffee room", to get to know each other, to learn more about the breadth of research underway in our region, and possibly establish some directions for ongoing networking such as a local chapter of the Association, a special edition of the Society and NR journal, or a book proposal for SNR press. Other ideas welcome!

One of the major benefits of attending an IASNR conference is the opportunity to connect with others working at the intersection of society and natural resources. A virtual conference makes it a bit harder to do this informal networking, so we hope this event creates a venue for connection with those working in the broader Asia-Pacific region.

## 2021 Virtual IASNR Conference

### *Poster Session – Asynchronous*

**Presentation Title:** Role of Land Management Practices on Soil Greenhouse Gas (N<sub>2</sub>O and CH<sub>4</sub>) Emissions in Missouri River Floodplains

**Presenter:** Jamshid Ansari (University of Missouri)

**Author(s):** Jamshid Ansari, Stephen H. Anderson, Morgan P. Davis, Frieda Eivazi, Sougata. Bardhan

**Abstract:** Soil is a living ecosystem that is affected by different land management activities. Managing soils to optimize soil physical and chemical characteristics is critical and determines soil health and function. Soil physical and chemical disturbances such as tillage and over-fertilizing influence soil microorganisms as well as soil greenhouse gas (GHG) emissions. The effects of three selected land treatments: agroforestry (AF), agriculture (AG), and riparian forest (RF) on soil greenhouse gas emissions were evaluated in this study. Three land-use systems were located in the Missouri River Floodplain (MRF) region in New Franklin, Missouri, U.S. Results revealed the highest GHG emissions happened in June after a flooding event with an average of 207 g N<sub>2</sub>O-N ha<sup>-1</sup> d<sup>-1</sup> and 148 g CH<sub>4</sub>-C ha<sup>-1</sup> d<sup>-1</sup> from the AF treatment. The agroforestry site showed a significantly higher N<sub>2</sub>O emission compared to the AG and RF systems. This study concluded that soil GHG emissions are functions of different land management. Fertilizer application in the AF leads to a higher N<sub>2</sub>O emission relative to non-fertilized systems (RF and AG). Soybean (nitrogen-fixing) cultivation for two years with no fertilizer treatment significantly reduced the emission of nitrous oxide. Soil anaerobic conditions due to flooding events contribute to the soil CH<sub>4</sub> and N<sub>2</sub>O production.

**Presentation Title:** Networking Community-Based Conservation Collaboratives in the Western U.S. with Maps

**Presenter:** Alan Barton (New Mexico Forest & Watershed Restoration Institute)

**Author(s):** Alan Barton, Elliese Wright

**Abstract:** In the 21st century, community-based collaborative organizations that bring stakeholders together to coordinate large-landscape forest and watershed restoration have become common around the western United States. In recent years, several networks have formed to link collaborative groups and provide opportunities for information sharing, cross-network coordination, and peer-to-peer learning. Over the past year, some of these networks have joined together to develop an online, publicly available map of conservation collaboratives in 12 western states. Led by the Southwest Collaboratives Support Network and the Western Collaborative Conservation Network, collaborative groups in these states have completed a survey to collect information on their purposes, landscape types and partnering organizations. Support organizations that provide services to build collaborative capacity have also submitted surveys. The data have been integrated into the map and can be located using search terms so that residents can easily identify nearby collaborative groups, collaborative partners can locate groups working on similar issues, and collaboratives can coordinate restoration and identify resources to assist them in their projects. The map assists individual collaborative organizations in building collaborative capacity and local community development, and serves as a tool to advance efforts to network collaborative groups.



**Presentation Title:** Listening to Rural Youth and Community Stakeholders: An Analysis of More than 2,000 Survey Responses from Oregon and Maine Youth to Understand Future Goals and Expectations

**Presenter:** Zachary Davis (University of Maine Orono)

**Author(s):** Zachary Davis, Jessica Leahy, Kathleen Bell, Mindy Crandall

**Abstract:** Rural youth out-migration can intensify workforce shortages, population declines, brain-drain and other issues that threaten the persistence and well-being of rural communities. Between 1990 and 2015, 30% of counties in the contiguous US experienced population loss, with 89% of these counties being non-metropolitan/rural. Despite concerns about youth out-migration and net-migration losses, the educational, career, and residential aspirations of rural youth remain relatively understudied.

In this research, we advance knowledge of rural youth decisions about leaving their hometowns for educational or career reasons in collaboration with stakeholder advisory groups. We incorporate measures of place and community attachment to understand these aspirations. In doing so, we modify the traditional economic empirical models of decisions based on expected wage and amenity differentials to include these attachment measures. Our study area includes two rural, forested US counties. We designed and administered a survey in 2019 following prior research and the Dillman's Tailored Design Method (with a response rate of 87%). Using 2,027 survey responses provided by middle school and high school students, we used descriptive and statistical tests to assess empirically the associations between educational, career, and residential goals and measures of place and community attachment. We also control for relevant economic factors (e.g., age, income, and stated human capital goals).

Results reveal positive associations between place and community attachment and future plans related to education, career, and residence. Feedback on these results from stakeholders who informed the design of the surveys and research project suggests this work and these results are of interest to rural community leaders. Notably, our findings suggest that by building place and community attachment, rural communities could influence the future educational, career, and migration decisions of rural youth.

**Presentation Title:** Is Adaptive Water Resources Co-management Present in Montana? A Mixed Methods Study

**Presenter:** Ashlie Gilbert (Montana State University)

**Author(s):** Ashlie Gilbert, Sarah Church, Bryan Wilson

**Abstract:** The social-ecological systems and natural resource management literatures reveal a body of scholarship that promotes adaptive approaches to ecosystem management. Benefits of adaptive management include the potential to maintain or increase ecosystem resilience under change, uncertainty, and complexity. Adaptive co-management is identified as a form of adaptive management that emphasizes collaboration, public participation, and polycentric governance occurring on a localized scale. Although several studies describe watershed management in Montana that reflects components of adaptive co-management, our review of

the literature reveals that little formal analysis on the presence of adaptive co-management in the state has been conducted. The Big Sky Watershed Corps program (which pairs AmeriCorps members with watershed protection organizations throughout the state to increase operating capacity and provide professional development) may increase their host site's capacity to implement key components of adaptive co-management. This study aims to assess 1) the presence of adaptive co-management in Montana's water resource protection and planning efforts 2) the role of Big Sky Watershed Corps members in adaptive co-management, and 3) the mechanisms by which adaptive co-management is constrained or supported. Our data will be collected via surveys with senior watershed group and conservation district employees in Montana (N=163), in-depth interviews with four key informants from eight watersheds (N=32), and analysis of relevant national, state, and local policy documents. In this poster, we will discuss key components of adaptive co-management identified in the literature, our mixed methods research design, and water resources governance in Montana.

**Presentation Title:** What drives mangrove conservation success? A global assessment of the influence of governance, trade, and public engagement with biodiversity

**Presenter:** Elizabeth Golebie (University of Illinois at Urbana-Champaign)

**Author(s):** Elizabeth Golebie, Sophia Chau, Natali Ramirez-Bullon, Miriam Aczel, Jacob Bukoski, Mimi Gong, Noah Teller

**Abstract:** Management of mangrove ecosystems is complex, given that mangroves are both terrestrial and marine, inhabit locations that often cross regional or national boundaries, and are valued by local stakeholders in different ways than they are valued on national and international scales. This complexity has resulted in divergent conservation outcomes among the 123 mangrove-holding nations as well as at different sites within a single country. This mixed-methods study addresses the following research question: what drives mangrove conservation success? First, we compared how national-level conservation outcomes were influenced by governance, trade, and public interest, measured by three global datasets: World Bank's World Governance Indicators, country-level trade data (Lenzen et al. 2013), and public engagement with biodiversity, a composite measure developed by Cooper et al. (2019). We defined mangrove conservation outcome as proportional loss or gain of mangrove cover from 1996 to 2016. Multiple regression showed that public engagement with biodiversity explained 15% of mangrove conservation outcomes in 73 countries, whereas trade and governance were not significant. To understand these patterns, we qualitatively evaluated mangrove governance characteristics through a systematic literature review. Our review included 65 articles that reported a total of 85 case studies representing state-driven (n=41), community-based (n=25), and co-managed (n=14) governance. We thematically analyzed each case study to identify the influence of Lockwood et al.'s, (2010) eight principles of good governance. We found that the principles of legitimacy, fairness, and integration were most important for top-down, bottom-up, and co-managed systems, respectively. Therefore, prioritizing these elements in governance, as well as promoting public engagement with biodiversity through increased community involvement, is essential to successful mangrove conservation.

**Presentation Title:** Understanding the Resilience of a Rural Tourism Destination to Climate Change in Maine, USA

**Presenter:** Lydia Horne (University of Northern Colorado)

**Author(s):** Lydia Horne, Sandra De Urioste-Stone, Parinaz Rahimzadeh-Bajgiran, Erin Seekamp, Laura Rickard, Bridie McGreavy

**Abstract:** Tourism destinations often consist of a series of host communities that enable visitation by developing tourism products and providing visitor support services. Community resilience is contingent on access to community assets to foster empowerment and evoke a sense of agency. Yet, more information is needed on the key factors that enhance climate resilience in tourism host communities that have limited assets. In this phenomenological study, we conducted semi-structured interviews with tourism stakeholders in six rural tourism host communities in the Bay of Machias, Maine, U.S.A . Phenomenological interviews (17) sought to understand factors influencing climate change resilience in the coastal tourism destination. Despite facing economic, infrastructure, and human capital challenges, the host communities are taking action to adapt to their most pressing climate change threat, flooding, by engaging multiple stakeholder groups to leverage knowledge, skill sets, and social ties. These actions were enabled by social networks centered around shared values, beliefs, and sense of place, as well as engaged local governance, active knowledge sharing, and a sense of self-efficacy. Lessons from this study suggest that leveraging resource sharing through collaboration and developing strong connections to place through livelihoods may enhance resilience of rural tourism destinations.

**Presentation Title:** Collaborative adaptation planning for archaeological sites at US National Parks; a case study of Knife River Indian Villages National Historic Site

**Presenter:** Courtney Hotchkiss (North Carolina State University)

**Author(s):** Courtney Hotchkiss, Erin Seekamp

**Abstract:** Severe climate change impacts are damaging, exposing, and destroying cultural sites where significance is often derived from the material and its context. One type of cultural resource that will need its own adaptation planning is archaeological sites because of the cultural and ancestral ties with living Indigenous groups. Additionally, archaeological sites can be exposed through large storms and erosion which opens them up to looting. Adaptation planning for cultural resources and places will be essential to prepare for and appropriately respond to extreme weather events, a responsibility that has become a priority for the National Park Service (NPS). Adaptation planning that is co-created between NPS work and Tribal Groups will help decide which actions and responses to climate change impacts will best address their needs and values. This poster presentation will provide an overview of the Knife River Indian Villages National Historic Site Archaeological Resource Management Plan as one example of collaborative efforts between NPS and the affiliated Tribal Nation to develop an adaptive management plan for stewarding archaeological sites. Semi-structured, qualitative interviews with NPS resource managers were conducted to better understand the process used to collaboratively develop the adaptation response options. Early results from interviews show a need for continuous relationship-building outside of formal consultation, options that allow for quick response to the damage or exposure of sites, and a call for reciprocity.

**Presentation Title:** Spread out to stop the spread: Beach research and management recommendations during the COVID-19 pandemic

**Presenter:** Brendan Kane (Old Dominion University)

**Author(s):** Brendan Kane, Chris Zajchowski , Thomas Allen, George McLeod, Nathan Allen

**Abstract:** Tourism destinations around the world continue to adapt to the COVID-19 pandemic. Coastal recreational areas, including beaches and boardwalks, likely feature lower rates of disease exposure due to the dispersion and dilution of respiratory droplets through regular airflow; however, indirect and direct management strategies are still necessary precautions to protect tourists and outdoor recreationists from potential exposure to COVID-19. To understand if and how the pandemic has changed beachgoer behavior and provide management recommendations, in Summer 2020, we utilized open source beachcam video and an unmanned aerial vehicle to obtain visual data at the recreational beach oceanfront in Virginia Beach, USA. Data was collected over 24 days and documented usage of a sample test area of the beach and adjacent boardwalk to understand diurnal patterns, locations and density of users, and use of masks in boardwalk users. Results showed a consistent use of the boardwalk throughout the day while the beach had a curvilinear trend peaking in the mid-afternoon. Beachcam data was verified through the UAV photography and spatial analysis, which showed high usage of the beach-adjointing shoreline above high tide with the landward third of beach vacant. These results are consistent with findings from beachgoer research conducted in the years before the COVID-19 pandemic, suggesting behavioral consistency despite the pandemic. Accordingly, our findings can help coastal managers to continue to craft direct and indirect management strategies to reduce the potential for disease transmission, while simultaneously providing access to beach resources during the ongoing pandemic.

**Presentation Title:** Leveraging partnership networks: Using social network analysis as a tool for sustainability science

**Presenter:** Bridget McGlynn (Brock University)

**Author(s):** Bridget McGlynn, Julia Baird, Ryan Plummer

**Abstract:** Sustainability science actively involves stakeholder involvement and has the potential to assist in regional climate change adaptation. Higher education institution (HEI) - community partnerships provide a mechanism to facilitate such ongoing participation. Social network analysis provides a method to better understand regional decision-making systems. In tandem, leveraging community partnerships to gather, complete, and disseminate more complete network analyses provides a valuable tool for sustainability scientists addressing decision-making challenges. This research presents a case study of the social network analysis of flood planning communication in the St. John River Basin that was completed within the Partnership for Freshwater Resilience, a joint venture between World Wildlife Fund-Canada and Brock University. Network data was collected electronically in Summer 2020 and a directed communication network was constructed from responding organizations (N=53). The communication network contained a broad range of actor types in the core, displaying an active role of watershed organizations and environmental non-governmental organizations in addition to levels of government. Active collaboration with community partners allowed for increased questionnaire participation and additional avenues of knowledge mobilization. This research

illustrates methodology innovation for sustainability scientists to collaboratively develop evidence-based governance suggestions for watersheds and other regional landscapes.

**Presentation Title:** Whole farm planning applications of landscape architecture: Design investigations of AgBuffer Builder

**Presenter:** Patrick Oelschlager (Purdue University)

**Author(s):** Patrick Oelschlager, Aaron Thompson

**Abstract:** This project, one part of a larger Great Lakes Restoration Initiative project, examines agricultural producer preferences for different riparian buffer configurations. AgBufferBuilder, a buffer design tool developed by the National Agroforestry Center, places relatively larger buffers where pollutant runoff loads are greater and smaller buffers where runoff loads are lesser. Resulting configurations are often highly variable and can be twice as effective as conventional buffers, but may be challenging to implement on the ground. Using AgBufferBuilder outputs as a baseline, this project seeks to incorporate additional structural constraints (e.g. tractor turning radius, field accessibility, harvest rate) along with social psychological constructs (norms, financial attitudes) that might impact producer uptake into variable width buffer design. The focus of this presentation is to convey the design parameters that will be presented to study participants during the design phase, specially farmers who will work with the team to assess opportunities for non-linear buffer implementation on their fields. Additionally, we will lay out our plans for collecting social data and how this information will be analyzed to support future work in this area.

**Presentation Title:** Speaking of Language: using language to investigate approaches to climate adaptation

**Presenter:** Selin Oh (University of Chicago)

**Author(s):** Selin Oh, Erin Seekamp, Courtney Hotchkiss, David Goldstein, Casey Thornbrugh, Isaac St. John, Michael Durglo Jr.

**Abstract:** Comparing the use of language can reveal differences in writers' values, perspectives, and ways of knowing. When it comes to climate adaptation, these differences in values directly affect actions and policies when formed and enacted. This poster focuses on two climate adaptation guides written from Federal and Tribal perspectives to explore the differences in terminology surrounding climate adaptation. Some differences were explicit, including the identification of terms that were heavily emphasized in one document but not even present in the other. Other terms were shared but were derived from different meanings and values, thus demanding explicit deliberation. Neglecting to effectively negotiate contested meanings is potentially harmful to efforts towards climate adaptation. The poster will also unpack three key implications related to three policies, one written from a Tribal perspective and the other two which govern federal agencies. This poster represents an introductory step into the vast area of inquiry concerning the comparison of language between Federal and Tribal perspectives; even so, the need for developing a shared set of terminology is already clear.

The linked website is an abridged 2-page summary prepared for dissemination. Much of the content from this poster has been re-formatted for the summary. The author is happy to answer any clarifying questions.

**Presentation Title:** Local resident' risk perception and response to wildlife disease

**Presenter:** Neelam Poudyal (University of Tennessee)

**Author(s):** Neelam Poudyal

**Abstract:** Health of the wildlife population is becoming a major public policy issue along the rural-urban landscapes across the world. Disease in some wild animals including chronic wasting diseases (CWD) in white-tailed deer population is of particular concern because of popularity of deer as big game species and their abundance in populated landscapes of agriculture and residential use. Social science research on CWD thus far is limited to hunters only, little is known about how other stakeholders including landowners and non-hunting residents, perceive the risk and respond to it. To fill this gap in knowledge, this study surveyed local residents in West Tennessee, where CWD was recently discovered, to assess residents' perceptions of CWD-related risk and model their intention to take preventive actions on their property to help control CWD. Analysis of survey data in a theoretical framework of Planned Behavior found several psychosocial constructs of individual (e.g., attitude, behavioral control) and collective interest (e.g., group efficacy, government efficacy) significance influencing residents intention to adopt CWD best management practices. The most frequently mentioned concerns associated with CWD were potential spread of disease across the state, safety of consuming deer meat, and possible decline in deer population. The proportion of residents willing to allow wildlife agency conduct targeted removal of deer on their property was rather low, yet it was an acceptable policy option. Options that might increase landowners' cooperation in targeted removal included demonstrating evidence of success in other areas/states and removing participation costs (e.g., no liability, no responsibility for any cost). For securing landowner cooperation to control CWD on private lands, demonstrating evidence of success and removing participation costs (e.g., no liability, no cost responsibility) seemed to be more effective policy options than providing financial incentives.

**Presentation Title:** Looking Through Their Eyes: Utilizing Participant-Driven Videography for Park and Protected Areas Research

**Presenter:** Julianna Rogowski (Kansas State University)

**Author(s):** Julianna Rogowski, Jessica Fefer, Christopher Zajchowski, Ryan Sharp, Cait Henry

**Abstract:** Participant-driven videography (PDV) may be a useful tool in park and protected areas (PPA) research. PDV consists of participants employing a camera to record videos about a subject or experience, giving the participant control over what sites are documented and their narration of in situ experience. Given the limited application of PDV to PPA research, this study demonstrates 1) the application of PDV in a multi-case study to explore its' utility for a qualitative understanding of destination image and visitor experiences, and 2) recommendations for future application of PDV in PPA research and management. For the purpose of this study, PDV was used at two park units in the National Capital Area: Rock Creek Park and Chesapeake & Ohio Canal National Historical Park. Destination image theory is used to identify important

internal motivating factors and external destination specific variables that contribute to quality experiences and help inform park management strategies and destination image formation. Participants include knowledgeable and invested stakeholders (e.g., friends organizations, recreation interest groups, partnership organizations, etc.). PDV interviews were conducted using a video meeting platform, where the researchers asked stakeholders to take them on a “virtual tour” while identifying areas and attributes of importance. Within the preliminary stage of analysis, a priori coding of videos and transcripts highlights variables important to the visitor experience and destination image formation. Additional SWOT analysis includes exploring strengths, weaknesses, opportunities, and threats of applying PDV to PPA research and management. Preliminary conclusions indicate that PDV is a useful tool for gaining unique qualitative insights into visitor experiences that may inform management decisions.

**Presentation Title:** U.S. political party affiliation and park visitation decision-making during the COVID-19 pandemic

**Presenter:** Caleb Scruggs (Old Dominion University)

**Author(s):** Caleb Scruggs, Alexander Burns, Chris Zajchowski, Jennifer Huggins

**Abstract:** In the United States, variations between state responses to the COVID-19 pandemic continue to create unique dilemmas for citizens, who depend on public places, such as state parks, for recreation, exercise, and healthy leisure opportunities. These variations in policy and management are, in part, related to the politicization of the local, state, and federal public health responses to the virus. Accordingly, in this study, we assessed how political party affiliation impacted park users’ visitation decision-making. Specifically, in Fall 2020, using a modified version of Rice et al.’s (2020) typology of latent psychosocial constructs influencing outdoor recreation decisions during the COVID-19 pandemic, we surveyed campers (n = 114) for their perceived importance of specific decision-making factors related to visitation at First Landing State Park, Virginia. Results indicated no difference between democrats, republicans, independents, libertarians, and those declining to share political affiliation in the high importance they placed on desired health benefits and substitution behaviors contributing to their visitation. The importance of self-reported social norms, perceived risk, and public health messaging from various authorities (the U.S. Centers for Disease Control, the World Health Organization, the Commonwealth of Virginia, the Trump Administration, and Virginia State Parks) in influencing visitation decision-making did, however, significantly differ by political party affiliation. Our findings can assist park managers in Virginia and elsewhere to design and leverage public health messaging that avoids potentially-polarizing constructs (i.e., social norms) and sources (i.e., the CDC) to influence public health and continued access to these highly-valued shared resources during the COVID-19 pandemic.

**Presentation Title:** Planning for Uncertainty: A Participatory Approach for Community-Based Climate Change Tourism Planning on Mount Desert Island, Maine, USA

**Presenter:** Gabriela Wolf-Gonzalez (University of Maine)

**Author(s):** Gabriela Wolf-Gonzalez, Alyssa Soucy, Valeria Briones, Asha DiMatteo-LePape, Lydia Horne, Sandra de Urioste-Stone

**Abstract:** Adaptation planning is critical for developing solutions to deal with the impacts of climate change. It is important to consider that adaptation occurs in a local context and is truly not a ‘one size fits all’ approach. Natural resource-dependent communities are particularly vulnerable to climate change as they must plan for the future under conditions of uncertainty. Mount Desert Island (MDI), a coastal community in Maine, USA, is a popular tourist destination, attracting visitors from all over the world for their abundant outdoor recreation opportunities and thriving downtown areas. Like many tourism-dependent communities, MDI is faced with both challenges and opportunities as they deal with increased tourism given a changing climate. Working closely with community partners, we developed a participatory climate change planning framework to increase the climate planning capacity of tourism-dependent communities on MDI. During a series of virtual workshops, tourism stakeholders in the community identified and prioritized climate change impacts, sensitivities, and adaptive capacities. Specifically, through engaged discussions, participants identified community strengths and resources, as well as potential solutions to address increasing visitation on the island. We present findings based on participant observations, pre-and post-participant surveys, and materials created during the workshops. We discuss these specific outcomes, as well as our experiences conducting transdisciplinary research as a student-led team during a pandemic. Our research has implications for projects that seek to move beyond traditional power structures and engage with community partners as collaborators, rather than subjects to be studied. Additionally, our framework offers guidance for other tourism-dependent communities that wish to co-develop locally relevant, useful climate change solutions.